

Canadian Computer Wholesaler

DISPLAYS:

***Are LCDs Finally Ready
to Elbow Out CRTs?***

***Kudos to CCW's
Technically
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***Consider the 'Other' CPUs
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A few years ago, I'd just taken my seat on a flight from Toronto to Milan when a fellow passenger sat down, smiled at me, and spoke to me in his native language. I shook my head. "Sorry?" I said. "I don't speak Italian. Do you speak English?"

Now he shook his head and tried to gesture. I glanced at him, and responded with the now-familiar head movement: "Pardon-moi, s'il vous plait?" I asked, prepared to demonstrate my rudimentary-to-be command of this language. In extremely halting French, he told me he didn't really speak it. So we paused, shrugged amiably, and passed the remainder of the trip in relative silence.

As an avowed *Tekker*, (Tinkler is a derogative term to tech believers), I think of the fictional computer systems that allowed for the very automatic translation of language when two different cultures or even species would happen to meet. We're yet far from that reality, but every day our computer systems become more sophisticated as this thing Technology needs to develop before we can even think about computer translation of spoken speech. First, computers must be able to truly recognize spoken words and effectively translate that to text. Companies like Dragon Systems, IBM and even Corel are delivering and improving their voice recognition technologies.

Then comes the task of translating those text words to another language—and there's the rub. Machine-based translation of entire texts tends to be clumsy at best. That's primarily because a great part of our understanding of language is based on the context provided, and our rational analysis of that, and Cyrilil Chastner, marketing manager for The Multilingual Suite, at Xerox Research Centre Europe in Grenoble, France. For example, consider a sentence, like "Mike got his dog Milo and he barked." Is "got" a noun or a verb, and who barked? A computer could have a lot of difficulty in deciphering.

That all gets a lot more complicated when languages with gender-related pronouns are involved. In English, most inanimate objects are "it," and have neutral pronouns. In French, they're feminine or masculine, and machine translation back and forth between the languages can be disastrous. Moreover, Xerox researcher Frederique Segond explained "expressions" very often



**Beam me
"en haut,"
Scotty?**

may reuse of already-translated phrases. For document creators, some new tools standardize terms to make translating easier and clearer. And for worldwide webmasters who may have a basic understanding of English, they can read new on-line product manuals in English when necessary, but "look up" unknown words in an underlying dictionary and be presented with the possible meanings, in order of likelihood. Xerox contributors say that while computer-based voice translation isn't a current company project, text translation improvements would definitely need to occur before that would be possible. (Which need exist for more on the research underway at Xerox Europe.)

Of course, the first step in the voice translation scenario would be text-to-speech conversion. And that's something that today's computers are already at least far at handing.

This issue, we are pleased to announce our winners of the CCM Technical Excellence Awards for Canadians. (Please see page 20.) As we move further towards a world community, it's vital for our visibility as a nation that Canadians play a prominent role on the world technology stage. And while this magazine pays significant attention to creating and recognizing products, we understand there are important people behind each and every technological advance. This is why we're taking the opportunity to recognize just some of the important Canadians on the technology forefront.

Meanwhile, much computer translation improves over the coming year. And for now, be prepared to type out your comments when encountering space aliens—

Enjoy the issue, BT

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Canadian Computer Wholesaler is published 12 times a year by Canadian Computer Paper Inc.

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Don't underestimate the people factor

I remember when *CCW* first started, and compared to now, well, there is no comparison. The technical articles are timely and extremely well written.

I've been selling, managing, directing and marketing in this business a long time and there has always been an adage that I'm sure you've heard many times: People buy computers from people.

Lately, it seems as if this no longer holds true, but I like to believe that it still does. When you make a significant purchase you aren't just buying a product or service, you're buying a relationship — a relationship that usually begins with two people interacting and then extends further to include the company and what it stands for.

Value and price count, but so do people! I have countless stories, examples and anecdotes on how "a person made the difference, not the product or the price." I've always believed that anyone making a large purchase decision wants to do the best job possible for his/her company, family, or themselves, in order to feel good about it, to achieve reinforcement, and to feel no one else could have done better. Therein lies the fear of screwing it up. If you reduce the fear, provide a support plan during and after the sale, be there when the purchaser needs you after they've bought (even just returning their phone calls promptly), then as a seller and a person you reinforce their decision to go with you in the first place.

Believe me: It is worth something to give the hardest, toughest buyers to know that they can depend and count on you to come through for them in the clutch. And they will pay for it.

Pat Delora
Marketing manager
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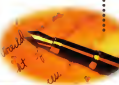
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Letters To The Editor

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We reserve the right to edit your contributions for length and clarity.

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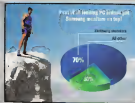
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Sun and Netscape team on customer support

Sun Microsystems Inc. and Netscape Communications Corp. have signed software support and education agreements to give customers one single source for interoperability support and access to training. The agreements target enterprise customers using Netscape software on Sun's Solaris operating system.

The Cooperative Technical Support Agreement with Netscape will be available in North America and Europe beginning in August.

And Sun has added Netscape's full line of enterprise software to its Sun Vendor Insurance Program, allowing a single, accountable point of contact for customers' interoperability issues.

Sun has also become a Netscape education provider.

AccPac adds a Advantage for on-line commerce

On May 11, AccPac International Inc., a subsidiary of Computer Applications International Inc., announced the shipment of a new line of Internet-oriented electronic commerce products.

The e Advantage Suite is a range of software tools designed to be used as part of a complete online business solution.

The e Advantage Suite is structured as a way to extend AccPac for Windows to the Internet, and is composed of a number of modules, including:

- e Order — a highly customizable software module, which allows customers to enter orders into a company's financial management system;
- e All Inquiry — an Java-based account information inquiry module, which allows customers to view current account status;
- e All Payroll Inquiry — which allows employees to view their personal corporate information,

such as payroll, address, benefit and vacation information; and,

- e Advantage Server — which regulates communications between the Internet and AccPac for Windows.

A software development kit is also available to allow partners and larger customers to develop third-party applications to meet specialized needs.

The e Advantage Server is priced at \$5,000.

See <http://www.sagepub.com>



Company's Digital acquisition proceeds

The U.S. Federal Trade Commission has cleared its review of the pending acquisition of Digital Equipment Corp. by Compaq Computer Corp. and the waiting period under the Hart-Scott-Rodino Act is over.

The transaction was scheduled for approval via a shareholders' vote on June 11.

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Quantum to acquire ATL

tape backup drive manufacturer Quantum Corp. says it will acquire ATL Products Inc. — a vendor of tape autoloading and tape robot libraries.

The proposed deal would involve the conversion of all outstanding ATL stock into Quantum common stock, a transaction with an estimated value of around US\$200 million. According to Michael Simon, CEO of Quantum: "Moving forward, the amount of digital content being managed by IT organizations is growing rapidly, making the role of storage even more critical. Quantum's focus will include expanding our capabilities to help customers manage their content through tape automation solutions, increasing the scope of our existing 200 million storage business. The acquisition of ATL, a leading tape automation systems provider, would allow Quantum to accelerate these plans."

For more information, see <http://www.quantum.com> or <http://www.atl.com>

Wave and data on one line?



(IN) — Lucent Technologies has entered into a \$5M deal with Wave Technologies to offer a network access product that integrates the voice and data traffic of a small or medium business onto a single T1 line, called the SLIC ConnectedAccess Access System.

The company claims the system will reduce network provisioning, maintenance, and management costs.

for voice providers.

SLIC ConnectedAccess reportedly consists of Wave's Multiservice T1 Integrator and a combination of Lucent's SLIC 2000 Access System so the two products will function as one, integrated voice and data access system in the local loop.

The company says SLIC ConnectedAccess "will deliver all of the local and long-distance calls, Internet access and data communications for a business over a single, high-speed T1 or T3 line."

The product will be available from Lucent this fall for new network builds or as an upgrade to the embedded base of SLIC 2000s.

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E-commerce exploding, says Deloitte & Touche

On May 19, Deloitte & Touche Consulting Group published the results of a survey of corporate chief information officers (CIOs) predicting that electronic commerce has quickly become the "killer application" in business computing. " poised for an explosive 100 per cent growth."

According to Doug Jennings of Deloitte Consulting, "We are experiencing an exciting time here in Vancouver. Until now businesses have been hesitant to adopt e-commerce because of security concerns or the general perception that e-commerce is a gimmick. Now it is less products and services. Now companies are coming to the realization that security will always be an issue — but that it's less of a cost when their existing bill on a retail new device that could provide a tremendous cost savings."

The Deloitte study says:

- Improving computing hardware typically increases employee training and training costs, and disruption, rather than

amplifying enterprise operation. Doing it e-commerce often makes more sense.

- Information access tools such as handheld computers and data synchronization systems will more than double in their installed base in including reaching an 80 per cent penetration rate among medium to large enterprises. Local area networks will achieve a penetration rate of 80 per cent.
- The strong public sector and financial industries will lead in the adoption of on-line commerce and other forms of interaction with their general customer base.

According to Rick Pope, a senior manager with Deloitte, "E-commerce is not a panacea. Some products and services — particularly those that are information based, such as banking transactions — are better suited for information in other businesses such as retail goods sales. Sales will want to "kick the tires."

This server market is growing, says Dataquest

(NB) — Gartner Group Inc.'s Dataquest says that the servers are gaining momentum in the market and getting a boost in response.

The research company says the 16th server market will grow from US\$1.1 billion in 1991 to more than US\$4.6 billion by 2000. The company added that the worldwide thin server market will increase 70 per cent in 1998, with revenues projected to surpass US\$1.8 billion.

This server designed to meet the specific needs of small businesses are projected to show strong growth as revenue is forecast to reach nearly US\$35 million in 1998, a 342.5 per cent increase over 1997 revenue of US\$3.6 million.

Manufacturers thin servers provide internet service for a small business or workgroup, says the company.

These devices primarily include internet access, firewall, HTTP (Hypertext Transfer Protocol) and e-mail.

The company actually defines a thin server as "a specialized, network-based hardware device designed to perform a single or specialized set of server functions." The company adds that a thin server "is characterized by relying a minimal operating architecture, and client access is independent of any operating system or proprietary protocol." □

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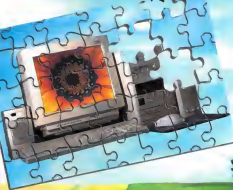
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CompuShare takes over Doppler location

Xerox Canada adds Xite program

Xerox Canada has announced the Xerox Xite Partner Program. Resellers qualifying to be Xerox Xite Partners receive:

- up to 10 per cent discounts on demonstration units;
- access to Xerox on-site or self-paced training;
- access to Xerox lead generation;
- co-marketing opportunities; and
- access to a trade-in program.

Mineral-based Polytec Corporation Inc. is expanding its CompuShare retail stores in Vancouver and Calgary.

In Calgary, CompuShare will be joining over a 30,000-square-foot Doppler location located on one of Calgary's busiest streets in Vancouver, CompuShare had already opened another downtown location.

"The taking was incredible," said Mike

Berthel, director of the CompuShare network, at a statement. "When we open up a new location it generally is a battle to find qualified staff and win over customers. In this case we were able to pick among the best of a highly trained staff and we now have a list of customers who are looking for a new place to buy. This gives us the usual high cost of entering a new market."



Open Text makes acquisition

Winnipeg, Ont.-based Open Text Corp., makers of Livelink, has acquired Information Dimensions Inc. of Rubin, Ohio (Open Series Technology Group).

Open Text says this acquisition places it in the market leadership position in worldwide enterprise document management with 42.7 per cent market share citing a report from International Data Corp.

This acquisition extends Open Text's worldwide installed base to 25 million users in 3,400 corporations, says the company.

Information Dimensions has annual sales of \$28 million and 110 employees.

AOL Canada has new software, upgrades

AOL Canada has announced a new version of its web-user software which offers a completely revised user interface and an integrated version of Microsoft Internet Explorer.

The AOL service offerings have also been revamped, with a line of games ("thematics") that are exclusively available to AOL subscribers. The AOL Today channel features current news, weather and market updates, while the Finance channel has been designed for francophone subscribers. According to Stephen Binkov, managing director of AOL Canada, "With the new AOL Canada, we continue to respond to our members' needs and build on previous enhancements to our service that have set the standards for ease-of-use and user mobility."

There are more than 100,000 current AOL Canada subscribers. While a couple of years ago, most PCs were monochrome (including pen and) were the "killer apps" driving adoption of high-powered PCs in the home market, the Internet has been added to multimedia as a main motivation for buying new home PCs, faster modems, larger monitors, disk drives and removable storage media.

EMU is selling Greystones duplicators

Quincy, Ont.-based EMU Data Systems is now distributing Greystones hard disk duplicators.

EMU says hard disk duplicators are used when companies want to replicate data on hard disk drives being installed into multiple systems. "This lets customer customers be installed identically for all users."



North York board implements security device

The North York Board of Education (now part of the Toronto District School Board) has implemented a space-age type security product to deter computer theft.

— Susan Wilson, Canadiana Today

The school board had been looking for a method to protect its investment in computer technology in schools and its used classrooms.

The product is a forensic marketing system that provides a "corporate fingerprint" (tagged bar code) for each customer. While the "tagged eye" can't see the marking, it can be identified by police using an ultraviolet light.

The company says SmartWater Traceol should be applied onto or inside an area as possible, preferably in surfaces that are difficult to clean, such as grids and slots.

The board will be launching its awareness campaign to correspond with the use of SmartWater Traceol, and is placing SmartWater Traceol stickers on the computers.

HP pushes small business initiatives

On May 21, at a presentation in Toronto, Hewlett-Packard (Canada) Inc. outlined its commitments to support technology solutions for Canadian small business.

According to Brian Ward, small business program manager at HP Canada, "Whether it's offering a new printer, a handbook on choosing technology, or a seminar on using small business more effectively, we're committed to doing what it takes to help entrepreneurs succeed."

HP's recent focus on small business has included the launch of many new printers, multifunction devices, scanners and other products aimed at the small business market. For example, the HP 2000C and HP 2000N Professional Series color inkjet printers are compact, ready-to-use devices which offer near color laser speeds, and high-quality text and graphics output with an low per-page cost of ownership.

The HP LaserJet 3100 printer has a paper system with a HP's fast auto-advance device built around a laser printer engine.

In addition to product innovations, HP has been working on building "infrastructure" to assist both its channel partners and small business customers to implement technology solutions.

New initiatives include the sponsorship of the Small Business Resource Network, the publication of an alternative small business technology handbook titled "Making Small Changes" — A guide to choosing small business technology" (<http://www.hp.com>) in partnership with the Small Business Resource Network, and a sales training program for HP partners, called the Small Business Consultant Training Program. See <http://www.hp.com/go/smallbiz>.

ATI gets in on flat-panel

ATI Technologies Inc. is partnering with flat panel display manufacturers for standardized or a digital video connector, to encourage mass-market adoption of flat-panel display monitors for desktop PCs.

The flat-panel monitors now shipping use the legacy analog VGA connector and add additional circuitry that converts analog monitor signals between analog and digital signals. ATI says this conversion process adds cost and reduces the image quality of current flat panels.

The DFP initiative proposes a specification that "enables use of digital connections that will improve image quality and reduce the cost of current desktop flat panels," says ATI. ■

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Any-time connectivity is Bluetooth's goal

by David Tanaka



Intel, IBM, Toshiba, Ericsson and Nokia are proposing a short-range radio transmission spec-

ification that will simplify data communications between handheld computers and organizers—or any digital devices for that matter. The proposed standard is being called Bluetooth. If it becomes what its proponents hope, all portable devices in the future will be equipped with tiny, energy-efficient radio transceivers that, without, as a consequence, keep them in a state of continuous standby for digital communication.

Here are some of the scenarios the group envisions in a Bluetooth-enabled world. The cellular phone in your pocket would tell you the moment your PDA or notebook computer (tucked in your briefcase) received an e-mail. If you wanted to check out something on the Internet with your handheld computer, Bluetooth would seamlessly link to your cell phone and make the call to your ISP. Or, if you were making a presentation using your notebook computer, you could transmit your slides to the LCD projector instantly—while others in the room could also receive the slides and view them on their own notebook PCs.

The new standard will address issues such as global standardization and the ability to establish ad hoc connections between a range of disparate devices. It will be an open standard, won't cost very much and won't take up a lot of power. One paper on the subject states that the device would draw only 0.3mA in standby mode.

Another essential goal of the standard is to make Bluetooth highly immune to interference from other devices using the radio frequency band. That it will accomplish by using short data packets.

Bluetooth calls for an integrated radio transmitter/receiver that allocates a unique 48-bit address to each device. It will operate on the 2.45-gigahertz ISM "free" band, which is available around the world, allowing global travelers to use Bluetooth wherever they find themselves. It will free travelers from having to carry numerous cables with them just to connect, for example, a pocket organizer with a notebook computer. The devices do not need to maintain a line of sight, so a connection can be maintained even when the device is in one's pocket or in a briefcase, according Bluetooth's authors.

The proposal also calls for data and voice to be supported simultaneously in full duplex. The maximum range of Bluetooth is 10 meters and the data rate will be one megabit per second with two neighbors per second planned for the next generation.



"The cellular phone in your pocket would tell you the moment your PDA or notebook computer (tucked in your briefcase) received an e-mail."

The five organizers announced Bluetooth in mid-May, and at the same time announcing a Special Interest Group (SIG) on the Internet to provide information about the proposed standard and also to publicize it. Bluetooth has attracted the support of

other companies including Motorola, Qualcomm, 3Com, Compaq, Dell, VLSI and Lucent.

Windows CE handheld or Palm III users may have experienced—in a somewhat limited way—the potential of wireless transmission of data, via the infrared ports. However, Bluetooth goes far beyond the simple beaming of business card data from one PDA to another.

Bluetooth was born partly out of research Ericsson conducted to find a way to replace cables connecting cell phones. The goal was to develop a small radio transceiver that would replace the traditional cable, without increasing the cost of the cable and connectors. Given the limited power available on a device like a portable phone, the power requirements of the transceiver also had to be very low.

Nokia's contribution comes from its work in trying to develop wireless solutions for its cellular phones. This led it into development work in the 2.4 gigahertz ISM band.

On the PC industry side, Intel has also been championing wireless data solutions for mobile computer users, and launched its Mobile Data Initiative in 1996. The initiative sought a solution to the growing need for mobile PC users to be connected even when there isn't a convenient LAN connection or modem line nearby. Intel will be providing expertise on chip design for Bluetooth.

Toshiba and IBM will be devising a method to integrate the technology into the mobile devices.

At this point there doesn't seem to be a specific timetable as to when we will actually see devices that are Bluetooth-enabled. However, if the standard delivers on even some of what it promises, its commercialization will be an anticipated event by mobile users everywhere.

The Bluetooth SIG web site is at <http://www.bluetooth.com>. ■

David Tanaka is a Vancouver-based journalist and Editor of The Computer Paper. He can be reached at david@tcp.ca.

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by Jeff Evans

Once upon a time, IBM Corp. held much the same position in the hearts of the public and the U.S. Department of Justice as Microsoft Corp. does today. It was both admired and feared, and was suspected of monopolistic and heavy-handed action towards its competitors.

Largely due to the personal computing revolution that both IBM and Bill Gates helped drive, IBM lost its grip on the computing industry beginning in the late 1980s, and as a result, the DOJ lost its interest. In pursuing its anti-trust case against Big Blue, IBM has emerged from its time of troubles a wiser, leaner and more realistic player in the global information technology market.

Instead of being addicted to its own closed, proprietary solutions, IBM looks at the diversity of today's computer industry as its principal opportunity for growth and profit. IBM is swimming happily in a corporate computing market that is a rapidly changing mixture of legacy mainframe systems, Unix and Windows NT. In this heterogeneous multi-platform, multi-vendor computing environment, no manufacturer or vendor is an island. In fact, the ability to get different computing systems to talk to each other, and work reliably together in an increasingly networked business world, is a key to success whether one is a manufacturer, reseller or end-user.

Learning to Count

Too often, corporate end-users find with rapidly escalating demands on their computing systems responded by shivering hardware at the problem: buying more servers, giving up to dozens of departments for more PCs, more workstations, more everything. Once the dust settles, however, the bills start to come in. The biggest bills turn out not to be the go-front hardware costs, but "soft" costs: total costs of ownership, and formal business costs such as loss of productivity improvement, and opportunities for new business or profits exploited or lost. Senior managers and shareholders are increasingly demanding that companies quantify the costs and benefits of investments in computer technology. As people learn to analyze the effectiveness of these investments, some hard facts are being discovered that mean good news for IBM.

Data, Data Everywhere...

Many companies are awash with data they don't know what to do with. Increasingly, huge numbers of transactions are recorded on servers, a potential gold mine of customer performance, habits and sales opportunities that often is never looked at again. Hard drive storage technology is so cheap (around 45 cents per megabyte, and falling rapidly) that many companies simply keep taking multi-gigabyte hard drives, and treasuries of backup tapes, to archive data indiscriminately. However, managing and caring for a megabyte of hard-drive data costs a corporation between \$3 and \$10 per

year year after year, according to industry studies.

That poses two pressing problems. First, are companies actually exploiting the potential of the mountains of stored data they are collecting? Second, are they paying value for the enormous costs they are incurring by storing it, and maintaining huge, often decentralized data storage capacity?

Mapping the Data Sea

A year ago, IBM began announcing a major program to offer data storage management solutions across the entire spectrum of enterprise computing. On June 1, IBM rolled out its first wave of new hardware and software products, under the name of the IBM StorageScope Storage Enterprise Architecture, to begin making the dreams of efficiently managed mass storage a reality. A mix of hardware and software products, StorageScope is an ambitious attempt to bring order and efficiency to the rising seas of stored data that corporations are creating.

The first building blocks of StorageScope include:

• **IBM StorWatch:** This is a suite of storage management software tools that allow one a global enterprise storage system to be managed using a standard Web browser. StorWatch is designed to integrate with storage hardware from many vendors, in many locations, so that centralized analysis and management of large storage systems can be accomplished easily.

• **IBM Versatile Storage Server:** This is a centralized shared disk storage device which can consolidate, share and allow easy management across diverse computing environments, including AS/400, UNIX and MS Windows NT.

• **IBM enhanced Virtual Tape Server:** This is a hardware and software system, which optimizes tape storage resources. Over 800 have been deployed on IBM's 3090 mainframes, and now the VTS will become available on other platforms as well.

The first versions of these StorageScope products will be shipped later in 1998, and additional products will be released in 1999 to extend the range of features, and compatible systems supported by the StorageScope architecture. According to industry analysts IDC and Dataquest, the storage market is intended to amount to over US\$44 billion in product and services sales in 2002, and its value to global business productivity will be many times that. IBM, by leveraging its investments in storage technology research and development (over \$3.1 billion in the last three years) with its position at the center of enterprise computing, expects that StorageScope will become the standard for corporations working to effectively use the flood of data in their businesses.

For more information, see <http://www.ibm.com/storage>. ■

Jeff Evans is Associate Editor of *Computer Whistleblower*. He can be reached at jeff@wps.com.



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Award Winners

Canadian Computer Wholesaler is pleased to devote space in this magazine to profile Canadians whom we believe deserve recognition for their contributions to technological innovation and excellence. While these people were ultimately decided upon by the Editors of **Canadian Computer Wholesaler** and **Canada Computer Paper Inc.** to receive our 1996 **CCW Technical Excellence Awards** for Canadians, we very much appreciated the nominations that came in from the industry. Congratulations to all the award-winners.

James Gosling Title: Chief Scientist, Vice-President of Engineering and San Fellow, Sun Microsystems
City of Residence: San Francisco Bay Area Age: 41

More than any other individual, Canada's James Gosling deserves credit for the creation of the Java programming language.

Although the initiative that resulted in Java was definitely a team effort, involving many Sun Microsystems employees from CEO Scott McNeely on down, it was Gosling's insights into the possible future of networking, and his almost uncanny talent for computer language creation that shaped Java to its critical initial stages. He was the catalyst for what may be a new age of intelligent, connected electronic devices that will extend human capabilities and communications in ways that would not have been possible without his contributions.

Gosling became involved, or more accurately, entranced with computers when he was a 14-year-old living in Calgary. In conversation with CCW, he said, "A friend of my Dad's took me on a tour of the computer science department, and I was jacked as can be. I sort of met some people there, and some my parents lived three miles from the University, I started going over there every day, blending into the scenery."

Gosling discovered within himself both a love and a talent for languages. "I've done dozens and dozens of programming languages. Languages are a powerful technique for addressing all kinds of issues. When we started what eventually became the Java project, a lot of the problems were around the [programming language] tools we were using."

Gosling was working at Sun Microsystems in the late 1980s, when he was recognized as a formidable talent. In a famous incident in 1989, a strong, passionate critique of Sun was written by a disgruntled employee named Naughton, prompting a special program within

Sun to get "outside the loop" of Sun's regular management, to facilitate greater creativity and perhaps discover the "Next Big Thing" in computing. Gosling was picked to be part of a team that initially was code-named "Green." Working in secrecy, the Green people tried to see what could be created outside a regular top-down corporate R&D environment.

According to Gosling, "We had become totally convinced very early on in 1990 that networking was going to be a very big deal for a much wider market, but we were not very clear how that was going to manifest itself. Initially, we weren't focusing on the Internet, because at the time the Internet was just something that computer science departments at universities and big companies used, and it just didn't have any consumer visibility."

The Green team tried developing handheld computer devices, interactive cable TV systems and other technological solutions in search of a problem. "It was tough—maybe we were lucky," not to get out of the early interactive TV contract Gosling confesses. In the meantime, at a Doobie Brothers concert, Gosling had "an epiphany of how widespread this thing [networking] could be, if we could get the infrastructure right," as he looked at the complex electronic lighting system above the stage.

Gosling and his team then conceived of a network-centric, platform-independent programming language that would run on many kinds of computing devices, and named the new system Java. The rest is history and to be written.

Gosling says his baby daughter occupies that niche in his heart, along with the rest of his family.

— Jeff Evans



K.Y. Ho Title: President and CEO, ATI Technologies City of Residence: Toronto Age: 42

KY Ho co-founded ATI Technologies in 1983 after immigrating to Canada, and over the next 14 years led the company to its current status, as the Number One graphics hardware vendor in the world, according to an International Data Corp. report.

Ho has been identified intimately with his company, largely on the basis of a "We Know" marketing and PR campaign around 1991. One of Ho's principal strengths has been to build a team of some of the best technologists in the world based largely on the rich pool of talent in the southern Ontario region. He also has a very good feel for market trends and the demands of changing computer technology for ever-improving graphics and 2D and 3D capabilities.

ATI went through a difficult period around 1992 to 1993, when several leading-edge development initiatives went awry, leading to delays in product releases or shelving of proposed products, particularly in the digital video segment.

However, under Ho's leadership, ATI staged a strong recovery. ATI dropped its volatile businesses to vented units and divisions, and concentrated on its core business building the market leading graphics processor chips and packaging them in high-quality cards with generally excellent driver software.

Ho is one of the consummate jugglers in the PC hardware peripheral business. He has built the most successful brand in personal computer graphics cards, inspired a diverse group of creative engineering talents, maintained high-volume, low-cost manufacturing operations in Canada, and constantly trumped his competitors by coming to market early with leading-edge products.

He has essentially created and sustained an industry for Canada, and along with Montreal-based Matrox, has made Canada the leading nation for high quality graphics cards.

—Jeff Evans


Paul Girard Title: President, Seamus Technology Corp. City of Residence: Richmond, B.C. Age: 34

Paul Girard, the president of Seamus Technology Corp., says his biggest professional goal is to "make Seamus into a Canadian success story."

Many in the industry would say that he's already accomplished that.

With a bachelor degree in economics from Queen's University, Girard founded Seamus Technology in 1994. Seamus has attracted attention and respect by taking control of the whole process, including design, manufacture, customization and servicing of the systems they sell.

Seamus has expanded to include Canadian offices in Edmonton, Calgary, Toronto and Quebec. Business has grown to the point where the end of 1997 found Seamus ranked number five among Canadian computer manufacturers. And the company is building up a growing list of resellers who've become big fans of Seamus's attention to quality and price.

In addition, the company has made inroads into the U.S. market, opening offices in Sioux City, Iowa, and Austin, Tex. The American division of Seamus has had a direct sales focus, but has clearly earned some kudos, as the company produced the MVP 1997 Product of the Year award for SCOH-systems at the Comdex/Fall '97 show in Las Vegas.

Throughout, Girard has remained responsible for the overall strategic direction and day-to-day operations of Seamus, as well as serving as one of the key members of the Product Marketing Team, a group that defines the technology direction of Seamus.

Outside the office, Girard likes to golf and to spend time with his family. And his philosophy of life is something that goes a long way to explaining Seamus's success in their field: "You only live once, make a difference."

—Sean Connolly


Mark Baile Title: President, Eurocom Corp. City of Residence: Ottawa Age: 40

Nepcon, Ont.-based Eurocom Corp., founded in 1989, has built a name for itself in the computer industry with a line of notebooks that are portable enough to take on the road, yet powerful enough to sit on the desktop for day-in-day-out work.

Under the direction of Eurocom president, Mark Baile, Eurocom has helped to define and steer the development of the "desktop replacement notebook."

Baile's education included management science and engineering courses from Ottawa University. He also gained considerable international experience with other cultures and technology, from extensive travel around the world.

Prior to Eurocom, Baile was involved in building and managing a corporate networking infrastructure for the City of Ottawa.

At Eurocom, Baile's daily duties include building strategic

relationships with key customers and suppliers, and developing an integrated system and building strategies for desktop replacement notebooks which incorporates the best components from industry leaders. A continuing goal is demonstrating leadership in desktop replacement.

In his off-time, Baile likes to pursue competitive sports. "I enjoy challenging situations that give me an opportunity to improve, and show me to find a different way of doing things."

"We have a very clear vision as to what the future is going to look like, and the technology we develop is playing a very integral part of that future," claims Baile. "Over the last number of years, we have demonstrated that our strategy is delivering results, and there's acknowledgement coming from other market leaders."

—Sean Connolly



Sam Warren Title: Vice-President of Technology, Net Shepherd Inc.

City of Residence: Calgary

Age: 41

Ron Warren, founder of Net Shepherd Inc., says his current professional goal is: "To keep things focused, and come up with new ideas and to do things better."

That was the kind of thinking that started the Net Shepherd company. One day, a business acquaintance of Warren's had just hooked up to the Internet at home, but said he wasn't going to let his young son have access, due to the risk of potential viewing of inappropriate material.

But it was the positive potential of Internet access that got Warren contemplating a way to manage access to the Internet. Of course, the immediate question was: deciding what is and isn't "good." Warren explains that filtering out user-based solely on "unacceptable" words is relatively easy to do, but the result is either blocking or over-blocking. For example, a site on "breast cancer" could very easily be banned by that method.

Warren's idea was to create a "community" of users to review sites for content (<http://www.net-shepherd.com>). That community currently has 1,500 members, but Warren expects 15,000 by year's end. They are motivated by the sense of belonging, and by perks such as Web site space and point-reward systems.

NetShepherd's Filtered Search was co-developed with Egnatia's AltaVista Software Group. When a Filtered Search query is received

from a Filtered Search site, the Internet Content Ratings database is accessed and current rating figures are calculated and overlaid on AltaVista's search results. Sites are rated for both maturity and quality levels. Search tools based on that database provide a reliable means to search the Internet without being exposed to sites that do not comply to community standards, says Warren. As Warren expands his ratings community, he wants to offer categories of ratings, based on geography, for example.

Warren said NetShepherd prevents the need for government censorship, for example, by offering Web user-choice. "I truly believe we provide choice."

NetShepherd technology is being used by wide variety of consumers, educational institutions and businesses.

Warren, who is self-educated, was raised by his grandfather, an inventor. Warren himself has had varied careers over the years, pursuing at different times, missionary, woodworker, garbage compacting, electronics, CAD drafting and computer support occupations.

His favorite hobbies include diving, hiking, canoeing and gardening. One of his philosophies of life has to do with working with people and encouraging them to reach their potential. "It's a big believer in people."

—Gisela Costantino

**Gordon Bell** Title: President, QNX Software Systems Ltd.

City of Residence: Ottawa

Age: 43

Our current goal is to have the number one embedded system after Microsoft," says Gordon Bell, president of QNX Software Systems Ltd.

QNX Software Systems Ltd. is the Ottawa developer of the QNXNeutrino scalable and high-reliable real-time operating system for embedded systems. The company is almost 20 years old, and has remained fiercely independent.

QNX was started by mechanical "jokers" coming out of the University of Waterloo — the principals, Bell and Don Dodge, are both 43. They still spend their days programming and developing software.

Bell has an M.A. in solid state semiconductor physics, while Dodge has an M.A. in computer science. After graduating, both worked at Bell Northern Research as programmers, before leaving and venturing forth with their own company.

Dodge recently received the 1998 F.W. Graham Medal in Computing and Innovation at Waterloo's spring convocation. The award has only been given four times.

Bell began dabbling in computers in high school and built a home computer in the early 1970s, a few years before IBM developed it as a commercial product.

Today, the company's real-time OS is being used as a mission-

critical application in a variety of industries around the world, including aerospace, telecommunications, medical instrumentation, process control, point-of-sale, consumer electronics, finance and telephony.

The only industry where QNX has not yet developed a presence is on the desktop PC, says Bell. Nonetheless, he notes, "there are 40,000 development boards that use our product."

Lately, QNX has been making strategic alliances with some major vendors.

IBM, for example, is using key aspects of the QNX/Neutrino OS in various devices, including an inside-the-automobile application.

In return, IBM will provide QNX with advanced embedded technologies to be integrated in the latter's product suite. Also, both companies are actively promoting the development of open standard interfaces for embedded products.

Bell views QNX primarily as a developer of solutions. "We like to provide technology that helps other people solve their technical problems."

QNX is also a "nice" place to work, says Bell. "We have an incredibly high retention rate (nearly a 100-per-cent staff)."

Bell says he's not a complete workaholic. In his spare time, he likes to do some hobby farming, canoe in Algonquin Park and act as a Boy Scout leader.

—Paul Winkler



Don Sammons

Title: CEO, AirIQ Inc.

City of Residence: Pickering, Ont.

Age: 43

Under the direction of CEO Don Sammons, AirIQ Inc. has taken the technology of remotely controlling a fleet of commercial vehicles to new directions.

AirIQ has combined four technologies for the Windows NT-based AirIQ Onboard system, released in late February. They include wireless communications, computing, digitized mapping and a Global Positioning System tapping into a constellation of 24 satellites.

The new system is also more simplified than previous applications, says Sammons. "The AirIQ is pre-engineered, streamlining the need for fleet operators to learn complex, customised technology."

Because the vehicles are individually equipped with an onboard computer and integrated GPS and wireless transceiver, the manager at a workstation in the office can track the location, direction and speed of each one in the fleet.

In the event of an accident, the details are reported back automatically through AirIQ's crash-sense technology, indicating what happened and who may be at fault. The system can also be used to remotely unlock the doors and have the vehicle disabled. "All data is stored and can be sent automatically or accessed at a later date," says Sammons.

Also, the drivers can be monitored to ensure they follow a pre-established route. The manager can obtain a printed map pointing

to unauthorized locations where a vehicle has stopped, including parking lots and sections of highway.

Among the benefits of AirIQ for the user, says Sammons, are improved efficiencies, enhanced driver safety, reduced losses from theft and lower insurance costs. The system is designed for fleets of repair and service vehicles, snowplows, taxis, buses, trucks and mail-cars. AirIQ is primarily designed for well-travelled highways and roads in Canada.

"By increasing the intelligence quotient of a vehicle, AirIQ provides a 'management-by-exception' service," says Sammons. "This reduces the volume of information so common with data logging systems."

AirIQ is a joint venture of four corporate players: Bell Mobility, Lashbrook Inc., Calques SRL and Desmarcch Corp. Sammons has a background in wireless technology going back 20 years. A high school graduate, he has steadily worked his way up the corporate ladder. "My preferred goal is to create something new and simple to use in technology."

Sammons left the business world for a three-year sabbatical to spend time as a youth co-ordinator for the Baptist Church. As a father of four children, he says his priorities are "family, community and business."

— Paul Weinberg

Garry Kalinski

Title: Chief Operating Officer, CanTax

City of Residence: Calgary

Age: 46

CanTax chief operating officer and president Garry Kalinski has been kept very busy expanding the potential for income tax software for Canadian consumers, small businesses and accountants.

CanTax introduced its consumer-oriented product, CanTax T1 personal income tax software back in 1985. Four years later, CanTax came out with a second product — T1Plus, which was designed to meet the needs of professional tax-preparers.

Both have been updated and continue to be on the market. CanTax T1 is its current version as known as CanTax 98. In addition, CanTax has developed other products in the same field, including the Canadian Tax Tutor, FormMaster Forms Library Software, CanTax T2 corporate income tax software and T2Plus for corporate income tax preparation professionals. Both T1Plus and T2Plus work with Revenue Canada's TIFix.

Kalinski estimates that approximately 7,500 tax preparers across Canada rely on CanTax and more than 40,000 individual taxpayers in the country use the product as well. Also, CanTax has 25 full-time employees in its Calgary office, but this number increases to 50 during the busy three-month tax season.

He notes that while the majority of accountants still use DOS, CanTax is making available its product for tax professionals in both DOS and Windows — including the latest 32-bit technology. He

understands the reluctance of accountants to make the switch to Windows because of the brevity of tax season, the hassle of learning a new application and the expense involved in buying new hardware.

On the other hand, Kalinski tries gently to urge clients to consider the productivity gains associated with more up-to-date products. "I help them make the transition." In the future the CanTax CEO envisages an upgrade in home electronic tax filing on their PCs after the year 2000. Also he sees the start of tax packages being sold on the Internet and tailored to the individual business requirements of the client. In terms of the future, CanTax already has variants included on its product.

A self-educated, 44-year-old businessman, he jumped into computer programming after graduating from high school. Before the PC revolution, he had developed a service bureau-based application for accountants.

Kalinski has since broadened his skill-sets into administration and selling. Helping to educate people on taxes and what they can do to reduce their payments appears to be his main mission. He targets young people to start filing returns at age 18. "Creating opportunities for others is what keeps me pumped up," said Kalinski.

In his spare time, he likes to read books about human psychology. "Marketing is a passion for me." □

— Paul Weinberg



The End of CRT

Flat panel display makers are gearing

The computer industry is full of "overnight" successes that took years to happen.

Consider the Apple Mac. It grew out of the failed Apple Lisa computer of the early '80s, and was supported for its first couple of years of existence by an obscure cash cow — the venerable Apple II computer. Before the Mac found its legs in the desktop publishing and education markets, and became a hit. Or remember the early days of multimedia and the CD-ROM, which was hyped as the "Next Big Thing," from the late '80s on, until it truly did become a big thing around 1993.

In the desktop computer display market, we have seen a similar phenomenon with the slow rise of flat-panel displays on the desktop. There has been much marketing excitement about flat panels at trade shows since 1993, but this hasn't translated into many orders. In 1998, finally there is a good business case for retailers to start taking flat panels seriously as an eventual replacement for the traditional Cathode Ray Tube (CRT)-based monitor. As a result of recently announced industry consensus, and technical and manufacturing developments, the sub-11851,000 flat panel display should be a reality sometime in 1999, and the CRT's days will be numbered.

Almost There?

Flat Liquid Crystal Display (LCD) panels have been the main focus of display industry research and development and manufacturing investment for the last five years. By contrast, although there has been continued development on CRT technology, this has been more in the nature of refinements to a mature technology, accompanied by the marginal price reductions of a commodity product, rather than anything revolutionary. Flat-panel prices, by contrast, are falling precipitously, and seem destined to continue falling for the next couple of years.

Nearly every observer agrees flat panels are the wave of the future, due to their manifold advantages over CRTs. For one thing, flat panels can be made almost any size, from postage stamp displays on electronic credit card devices, to wall-sized home theater plasma displays. This makes them the display technology of choice for an increasingly mobile, connected computing market. Examples of popular computing product solutions made possible with the help of LCDs include the iMac Plus II, large-screen desktop replacement,

the Era?

by Jeff Krasner



up to make their move...

notebook computers, and Windows CE handhelds. LCD screens are also popping up in their millions on low-cost consumer electronics devices, such as digital cameras from Epson, Kodak and Fuji, smart phones and all manner of accessories.

Flat-panel desktop displays typically weigh less than half as much as a CRT monitor of similar viewable screen area, and take up a quarter of the desktop space. Flat panels consume a fraction of the electrical power of a CRT, emit virtually no electromagnetic interference, generate less heat, take up less storage space, are cheaper to ship, do not degrade over time as fast as a CRT's display quality, and offer a non-flickering, less tiring user experience compared to CRTs. Flat-panel users report fewer headaches and less eyestrain than CRT users.

Some of the former drawbacks of LCD screens, including slow and low contrast image quality and a narrow viewing angle, have been overcome in recent models. In fact, as is mentioned below, LCDs have the capability to provide a superior image clarity to even the best CRT monitors, with the introduction of a new standard for all-digital connections to an upcoming generation of graphic cards.

The main stumbling block in 1998 remains the issue of price. In spite of a rapid slide in price from more than \$4,000 to under \$2,000, flat panels are still

Some Players:

Here are some of the major companies driving the desktop PC display market in 1998, including some of their latest and most significant product offerings.

Acer (<http://www.acer.com>)

Acer, the second largest monitor maker worldwide, and a major manufacturer and distributor of computer systems and components, has a wide range of monitors ranging from the budget-priced 20-inch 14-inch (8.1-inch viewable) 845 model through to the 16-inch (12.1-inch viewable) 865. To higher end — 21-inch to 29-inch flat-panel, 17-inch and 19-inch models, such as the 740 and the 760. The wide mix of price/performance offerings makes Acer a popular choice for many PC revolvers. Acer also offers the Acer/View 820 12.5-inch, the 790 15-inch, and the 800 12.1-inch ESH 520 flat-panel displays.

Apple (<http://www.apple.com>)

Apple has long been a leader in innovative monitor design, pioneering integrated "all-in-one" computer/monitor devices under the original Lisa and Mac Classic models, engineering in the recently released Mac Apple has also made notable use of color LCDs in its PowerBook laptop computers, and its efficient educational computers, and its now-discontinued Newton MessagePad Personal Digital Assistant.

Apple's stand-alone desktop monitors are characterized by industrial engineering design, and original touches such as built-in speakers and microphones, and easy-to-use controls. Current models include the 13-inch (10-inch viewable) Apple Multi-Scan 700 display, and the 15.1-inch Apple Multi-Scan Display 1000 panel, possibly the most beautifully designed flat-panel on the market.

Although Apple has in recent years attempted to produce lower cost versions of its displays, especially for the home and education markets, it has always had trouble competing with lower-priced computers in the Mac peripheral market, much less being able to sell Apple monitors in the Windows PC market.

Delltek, a Benetton company

(<http://www.delltek.ca>)

Delltek is a volume leader in the Canadian monitor market, with a product line that includes very aggressively priced, popular commodity monitors, including the 14-inch (10.5-inch viewable) DT1080, 16-inch (12.5-inch viewable) DT1080, and 17-inch (13.5-inch viewable) DT1200, as well as some upscale models such as the 17-inch (13.5-inch viewable) DT1700 with less a 26-watt idle price, the 17-inch Vista 917 with a 35-watt idle price, and the 21-inch (16.5-inch viewable) DT1700M. Delltek monitors are often seen bundled with low-cost clone PCs.

Dell

(<http://www.dell.com/products/monitors.html>)

Dell the base of the monitor market with its very successful multi-tier and on-line sales model and its rising recent sales in Canada, attracts customers with a very solid, technically impressive computer line, which complements its reputation as its PC provider for the most current technology at reasonable prices. Dell offers a mix of mainstream 26-watt and 35-watt monitors, including the 17-inch (13.5-inch viewable) Dell 1000S and 18-inch (12.5-inch) Dell 1200S models, as well as

not expensive for most would-be buyers. At the moment, 15-inch to 17-inch LCD flat-panel displays cost around 2.5 times as much as a similarly sized, premium quality CRT monitor. This keeps the LCD desktop monitor confined to a tiny percentage of the desktop monitor market.

The Alliance

The most exciting effort to drive down the costs of flat-panel monitors has been announced by a consortium headed up by Canada's ATI. Dubbed the Digital Flat Panel Initiative (DFPI), this alliance aims to reduce the costs of flat panels to under US\$1,000 in little over a year. Key to the effort is acceptance of a low-cost, all-digital interface between the next generation of flat-panel displays and PC graphics cards. Monitor makers including Viewsonic, MAG, Princeton, LG Electronics, and Samsung, and PC vendors including Compaq and Acer have all announced support for the DFPI initiative. DFPI will establish a standard for low-cost circuitry to transmit all-digital image data from a PC to a flat panel, shaving hundreds of dollars off the cost of flat panels that currently have to convert analog image data (in the form that CRT monitors need to receive data from a graphics card) back to digital. The all-digital solution offered by the DFPI will also result in cleaner, sharper display of images on flat panels, further enhancing the appeal of flat panels over LCDs. The DFPI participants hope that products based on the new standard will be in production by the end of 1999 or the latest.

Meanwhile...

For the rest of 1998, and into mid-1999, the sales and profit opportunities in the desktop monitor market will likely remain primarily with traditional CRT products. In this field, trends visible in 1997 have mainly continued through 1998.

Small format 14-inch color monitor models have continued to sell in large numbers to the dumb terminal and sub-\$1,000 PC systems markets. These 14-inch monitors are mostly utility grade, low margin, commodity products sold on price and not much else. These features sell typically are upgraded less often than larger format monitors, or in some cases are essentially no longer being upgraded at all. The continuing evolution of Network Computing, with three-oriented NC thin clients, the new Microsoft Windows Terminal (Hydra) platform, and Net PC desktop computers, will offer vendors an opportunity to sell large numbers of low-cost color 14-inch monitors. The buyers will be business, government and educational customers upgrading from dumb terminals and monochrome monitors to Web-ready, connected network computing devices.

In the sub-\$1,000 consumer PC market, 14-inch monitors will also continue to be sold widely, though typically at paper thin margins. One long-term bright spot is a 14-inch monitor retail sale in that there is a good chance users may eventually upgrade to larger, better monitors when they have the money to do so.

The 15-inch CRT monitor is still the mainstream for home, business and educational desktop computing, due both to its low cost and small size. The size is "good enough" for most consumer office suite applications, games, Web browsing, e-mail and multimedia software display. Most of the major monitor vendors continue to develop and upgrade the features of their 15-inch monitors, allowing resellers to "ageless" 15-inch monitor buyers on the basis of quality and features.

As always, the quality standard for CRT tubes is the Sony Trinitron, and its high-end competitors from Hitachi and NEC.

With its new iMac computers, Apple has continued to offer a part of its Mac product line as the form of "all in one" systems with a 15-inch monitor integrated with the CPU. The next generation of integrated PC will be a flat-panel display with the computer built into the display's chassis—a kind of desktop notebook PC. At the moment, LCD cost is the most inhibiting factor to this solution.

20-inch or 20-inch Trinitron models in 15-inch (16:9 aspect ratio), 15-inch (16:9 aspect ratio) and 21-inch (16:9 aspect ratio) sizes. Data's current flat-panel offerings in the 15-inch flat panel line.

NIE Technologies (<http://www.nie.com>)

For many years NIE has been a quality and innovation leader in monitor making, and has earned a significant share of the CRT monitor market in flat-panel monitor line. Among its current offerings is the 15-inch (16:9 aspect ratio) monitor available from Dell/Apple (Dell). The D60 is aimed at the corporate, small office and home power user market. NIE is also actively promoting its LCD monitors, with the 15-inch (16:9 aspect ratio) LCD D60 and the 17-inch (16:9 aspect ratio) LCD D60. NIE also has a major in making high-quality TFT flat displays aimed at its base network line. As one of the relatively small number of color LCD vendors, NIE is well-positioned to play a leading role in what results from CRT to LCD monitors expected over the next few years.

Philips Electronics Ltd. (<http://www.philips.com>)

Philips, a European based 50-50 joint venture in computer monitors, recently announced a new management team to head up its global flat-panel display effort, led by Matthew Melville, the chairman and CEO of the Philips Flat Panel Display Group. This announcement coincided with Philips increasing its stake in Japan's Matsuda and Philips Display Company (MDFL) from 50 to 80 per cent. Philips also makes an excellent line of CRT monitors, but simply stresses that flat-panel will be the future. A global review of 64 megapixels that they foresee will require a major investment in manufacturing, infrastructure, and channel development. Starting this, a major hurdle has been cleared in a few years. Philips already has a range of flat-panel displays ranging from 15 to 21 inches, including the recently released 15.1-inch (16:9 aspect ratio). In the company's Web site are visionary predictions of future display technologies such as active matrix organic light-emitting diodes (OLED) for the home, educational and business markets.

Princeton (<http://www.princeton.com>)

Princeton has recently expanded its line with a very affordable 17-inch (16:9 aspect ratio) (D60), which is expected to have a significant impact on the market.

Princeton's whole monitor line ranges from 14 to 21-inch models, and includes the Arcadia Series of 17- and 20-inch PDPs monitors, and the new line.

Samsung (<http://www.samsung.com>)

Samsung Display Co. Ltd. is a well-known name in monitors. This company offers a range of CRTs, from 14 to 21 inches. For example, the SyncMaster 3000 is a 21-inch monitor (21-inch monitor) with a 16:9 aspect ratio, weighing in at less than 20 pounds.

In the LCD field, the company offers the 15-inch SyncMaster 400T and the 17-inch SyncMaster 400T. Both products include built-in speakers, as part of the company's multimedia-supporting SyncMaster Total Performance Monitor.

Sceptre Technologies Inc. (<http://www.sceptre.com>)

Sceptre, one of the world's largest makers of monitors and notebook PCs, has continued to be the leader in building the flat-panel display market in Canada, as well as spreading that new Dragon line of CRT monitors.

Sceptre has been steadily active in building its



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Bigger Is Better, Especially for Resellers

Most of the bust in the rest of 1999 is likely to be generated in the 17-inch and 19-inch CRT markets. The 17-inch monitor has continued to grow in sales as prices have drifted downward and features have improved, and the sector of PC users for higher resolution displays has increased.

A 17-inch monitor (which typically has a maximum diagonal viewing size of about 16 inches) is substantially better for viewing large spreadsheets, desktop published documents, multiple Web pages, and other large, demanding data and image displays than a 15-inch monitor.

In the mainstream home and business markets, an differentiated from the "budget" market, the 17-inch CRT is quickly becoming the new standard.

Following quickly on the heels of the success of the 17-inch CRT format is the biggest display success story of 1997 and 1998 — the 19-inch monitor. Employing design and technology innovations to pack a 19-inch (18-inch diagonal viewing size) screen into a footprint little bigger than a traditional 17-inch model, this monitor format offers a price/performance mix that makes it irresistible for many "premium" home PC users and professional graphics, CAD and financial computing users. By contrast, 20-inch and larger monitors suffer from a similar vicer's curse: problems to LCD panels, with the added disadvantage of huge footprints and crushingly heavy weight.

Other Players

As LCD data processors from vendors such as Epson also benefit from the downward trend in prices brought on by improving manufacturing technology and economies of scale, they are increasingly being chosen as a solution for very large format display of computer images, especially in business and education. As well, manufacturers such as Princeton report a strong growth in the sales of large format TWPC monitors, with screen sizes of 36 to 34 inches, which can display both video and computer image frequencies. Also, consider the Plasma panel display product sector, with examples currently offered by NEC, Philips, and Mitsubishi, offering "wall hanging" models up to 42 inches wide. Plasma displays are declining steadily in price, but they have a long way to go before they can attract a large volume of sales.

For the demanding home theatre or business presentation early adopters, plasma may be able to give LCDs competition in the large display market within the next two to three years.

The Future

Resellers should keep a close eye on the prices of both CRT and desktop flat-panel display products. If as is expected, the price of a 15-inch flat panel (with a viewable area close to that of a 17-inch CRT) drops in within 20 per cent of the cost of a 17-inch CRT, focus group surveys indicate that up to one-quarter of new monitor buyers will opt for the more expensive LCD.

According to industry analysts, sales of CRT monitors may level off by the year 2000 and begin to decline rapidly by 2001. LCD desktop displays should become a worthwhile market by late 1999, and really take off shortly after that date.

As always, resellers should ensure they don't get caught on the wrong side of a rapidly changing price/performance equation, holding inventory of products at the older, higher price without any price protection from the manufacturers. With suitable caution and close attention to customer needs and changing products and prices however, resellers should find many opportunities to benefit from the interesting developments in the computer display market.

We've had plenty of warning that the shift from CRT to LCD is coming — there's no excuse for not being ready to exploit it when it actually happens. ☐

Jeff Evans is Associate Editor of Canadian Computer Wholesale. He can be reached at jef@atp.com.

Canadian reseller planned to accommodate urgent and untimely growth. On May 26, Scripte announced a Canadian Partners Support Program, including a web advisory, demo, and lead referral program. As well, Scripte will provide resellers with paid calls of up to 100 products for end placements in corporate sites.

Sony of Canada Ltd. (<http://www.sony.ca>)

Sony's Trinitron CRT tubes are still the standard for premium quality (and premium price) computer monitors, but their higher end line now leaves a great deal of room for lower quality, lower priced competition. Among the current models available in the Canadian market are the 19-inch Trinitron viewable Multiscan GDM-4070, and the 17-inch (16-inch viewable area) GDM-2000. Trinitron CRTs typically have a superior aperture grille pitch of about 25 millimetres, compared to less expensive monitors' dot pitch of 30 millimetres.

TTX (<http://www.ttxmonitor.com>)

TTX, self-described as "The Monitor People," have a wide array of display-related products ranging from the traditional CRT (the Mediator and Professional series) to flat-panel displays, touch-screen monitors for educational and interactive multimedia applications, and ultra-monitor cards. The Mediator Series is a high and LBT-on dot pitch or 30-micron aperture grid Trinitron CRTs line of professional monitors, and includes a 19-inch (18.5-inch viewable) Model 5005, with a street price of less than \$1,100. The Professional Series is a more value priced range of mainly 20-inch dot pitch 14, 15, and 17-inch models. The panels include the PanelView 960 (16-inch panel), and the M0 14.5-inch panel.

TTX also offers a new innovative dual display interface program, where installation and system is related to the purchase of a TTX monitor in exchange for a maintenance & upgrade-related company. TTX has sold almost six million monitors, and gotten itself on an worldwide Canadian distribution, sales, and support network, and excellent warranty terms on its products.

ViewSonic (<http://www.viewsonic.com>)

ViewSonic is one of the most popular makers of good quality but affordable monitors. They claimed to have released the first 15-inch "Short Depth" display, a large screen monitor with a desktop "lookout" more comparable to a 17-inch product. The Short Depth monitor has a wider bezel than most monitors, which allows the monitor to stretch the picture needed to produce an 18-inch viewable area. The shorter CRT tube translates into a slimmer, more compact cabinet design.

Wacom (<http://www.wacom.com>)

The folks from Wacom are the leading graphic tablet makers, so what are they doing here, in a display product round-up? Well, Wacom Technology Corp. has produced a graphics "tablet" that is also a headless LCD display, two which a user can view directly, using a pressure-sensitive stylus.

In effect, Wacom's PL-001 LCD Display Tablet is the first real electronic canvas. The digital drawing tool can be used in a way that's extremely close to traditional drawing media. The PL-001 is built around a color-LCD panel that measures about eight by 10 inches. The display is secured in a rugged, six light-weight aluminum shell attached to a PC or Mac via a serial cable. Running a graphics program such as MetaCreations' Painter software, the user can draw, erase or stretch directly onto the image on the LCD, and the strokes of the stylus will appear instantly on the drawing tool as they move the surface of the LCD. ☐

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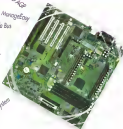
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Performance Notebooks

They're primed for portability and power — but which are most worth their carrying-weight?

by Scott Gottlieb

With business increasingly reliant on computer technology for crucial information and presentations, and as business people use more mobile than ever before, the need for powerful portable computing has also grown.

This has opened a wide variety of interesting and useful devices. But while handheld units like the PalmPilot or Windows CE machines have a market, they continue to be smaller and more limited in their capabilities. Typically, the interfaces are more difficult to use than desktop machines, memory is limited, and performance is inadequate for anything flashy or CPU-intensive.

For these reasons, the notebook computer continues to be the big piece when it comes to portable sales. Although notebook performance has always lagged behind similar configurations on the desktop, the power that can be packed into these little boxes remains impressive. A 5GB hard drive is roughly the size of a pack of playing cards. CD-ROM drives are scarcely bigger than the CDs themselves. Most machines come with a plethora of external ports, increasing the ability of notebooks to interface and interact with other machines and peripherals.

The notebook, as envisioned by both the manufacturers and the users, has gone in two directions: following true portability, or desktop replacement. With the units that are aimed at portability — size and weight matter. To a user who will be slinging a machine over a shoulder for a dash to the airport, the lighter the better. When working in constricted and unadorned spaces while on the way to an important meeting (whether it's on an airplane, in the car, or in the lobby), smaller means less awkward.

On the other hand, the desktop replacement notebooks are bigger and heavier, but often more powerful. Despite that, they can be picked up in a moment's notice and brought along for a business meeting. For users who occasionally need to pick up their notebook but don't want the hassle of constantly transferring data between computers, the desktop replacement notebook is becoming an attractive option.

Meanwhile, as components get smaller, more can be placed inside the portable machines. Although some machines still require the user to switch between floppy and CD drives (consequently requiring the system to be powered down while switching), a number of machines have components so miniaturized that they are able to fit both the CD-ROM and floppy into the same small case.



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New desktop replacement machines routinely feature modems, high-quality sound (internal speakers that aren't so good, but the quality through external output is excellent), video-out jacks for external monitors, infrared ports for high-speed transmission to other devices, and jacks for mice and keyboards. Further, in addition to the PCMCIA slots commonly used for network cards, some machines are even starting to ship with built-in LAN ports.

Components in both portable and desktop replacement machines perform more slowly than similar configurations in full-sized desktop machines. Although mobile Pentium II processors are starting to appear in notebooks for the first time, the ability to get data where it needs to go inside the machine is still compromised somewhat by the smaller components. The good news is that speed continues to improve substantially for notebooks, regardless of how they compare to the full-sized machines. Even six months ago, "light-and-fast" notebooks were often limited to Pentium 166MHz units. In this month's lab test, some of the notebooks available come close to doubling the benchmarking scores of those units.

Growing...? Shrinking...? Yes.

Although the new machines are compact in many ways, they are more full-sized than ever before. A major problem with early notebooks was that smaller units offered smaller keyboards. Now, with wider screens, notebook bodies are wide enough to accommodate full-sized keyboards.

As for the screens, they continue to grow in size, as well. Desktop CRT screens have a variable area less than their LCD equivalents. The 14.2-inch LCD notebook display is roughly the same viewable area as the 15-inch CRT. At 15.1 inches, a LCD display is starting to approach the viewable area of a 17-inch CRT monitor.

In notebooks, the pixels are hardwired into the display. Most of the new notebook computers ship with a resolution of 1024 by 768. However, if the user needs to downsize it to 800 by 600 for some reason, one of two things can happen. The display may become blocky and ugly as it tries to redisplay 800 display pixels over 1,024 hardware pixels, and, alternately, the difference in pixels can be discarded, leaving a black border around the 800 by 600 pixels centered on the display.

The solution? Because of the power of these machines, they're well-suited for flashy presentations, whether for large and important meetings, or small groups of people. As a recognition of that fact, notebook computers come with a video-out port for displays on a big monitor, or on a number of smaller monitors. Setting up for a big

presentation can now be as simple as finding an electrical outlet and plugging a cable into the video-out port.

RAM Counts!

One thing that became clear during this month's tests is the ability RAM to boost system performance. For a long time, Windows 95 and 16MB RAM seemed to go hand in hand. More recently, there was a jump to 32MB. Now, with memory so inexpensive, a machine with 64MB RAM or more is not unreasonable, and can be well worth the increase in performance obtained from the elimination of hard-disk swapping.

As an illustration of this fact, one of the machines this month was mistakenly shipped with only 16MB RAM. For informational purposes, we did a "before" and "after" test on this notebook. With the addition of the extra memory (and no other changes), the benchmark scores jumped, sometimes by 30 points or more.

What the users in almost most of the machines in this month's test are good, with a few more dollars they can be even better. When purchasing notebooks for resale, it certainly wouldn't hurt to check how much the extra RAM would add to the cost. It could mean the difference between great performance and excellent performance.

For our tests this month, we used BapCo's Sysmark99 benchmarking software. The notebooks were tested in both 1,024 by 768 and 800 by 600 resolution with a 16-bit color depth. Testing was done with the machines powered by their AC adapters, with power management turned off.

We also did a rudimentary battery test to get a rough estimate of battery life, using a program provided by Dave Vourhis at Armchair Airlines Computer Services. It's important to note that battery charge varies from battery to battery even on the same model, so this is by no means conclusive. It's also important to note that things like CD-ROM drives and floppy drives will quickly drain the battery.

"When purchasing notebooks for resale, it certainly wouldn't hurt to check how much the extra RAM would add to the cost. It could mean the difference between great performance and excellent performance."

Angel 6000 MegaNote

Processor: Pentium II 266MHz
Suggested Retail Price: \$6,000

The Angel 6000 MegaNote is an imposing piece of equipment, larger and heavier than most notebooks. Like the Eosystem model in this month's roundup (which uses the same style of case to share it), the Angel 6000 MegaNote is less a true portable and more a desktop replacement unit.

Although (though it is) to be impressed about with this notebook (15.1-inch display, 4 160 hard drives, 24X CD-ROM) when it shows its speed. With 128MB RAM onboard (the maximum this machine can take), and a Pentium II 266MHz processor, the MegaNote just sits, turning its brain power that substantiated the equipment by a healthy margin in most tests.

One complaint with the machine is with the buttons under the touchpad. The MegaNote is a lot sleeker about where one has the buttons (it seems to prefer the point where the two buttons meet, rather than side of the buttons), tapping the touchpad may be easier, but it's still a bit awkward.

That aside, the MegaNote is a nice speedy machine, great for turbo-charged desktop replacement and the occasional road trip (for which it comes with its own carrying case). It is backed by a one-year warranty.





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Apple Macintosh PowerBook G3

Processor: PowerPC G3-1000MHz
Suggested Retail Price: \$1,000

For those looking for an alternative to the Windows-based universe, there's always the Macintosh. After a tense period of uncertainty about where the company was going, Apple has stayed the course with the new iMac, and the G3-based PowerBook.

If this announcement wasn't enough to shake an impression, the look of the new PowerBook will take care of that. Instead of the usual hard and squared-off lines most currently available notebooks sport, the PowerBook gets by a more rounded and elegant feel. There's a lot of attention to detail with this notebook.

It doesn't stop with aesthetic concerns, though. The PowerBook contains a 20X CD-ROM, a RAMbus modem, both SCSI and FireWire ports, a video-out jack for viewing on a standard monitor. Beneath the bezel, the bezel sits on the front end of the machine and has a pop-out with a quick flip of a lever.

Unfortunately, our benchmarking software would not operate on this machine, so there are no results included in this review. The general consensus says G3 machines typically perform faster than PowerBook machines with the same frequency rating. Either way, this notebook offers powerful performance and a good mix of components.

The warranty period for the PowerBook is one year.



Cenqeq Armade 1700DMT

Processor: Pentium III 600MHz
Suggested Retail Price: \$1,800

One of the big names in the industry, Cenqeq offers the Armade 1700DMT performance notebook. This machine is a sturdy little machine with some interesting features.

First of all, the notebook is one of only two we reviewed with trackpoint cursor control. The feel on the Cenqeq's trackpoint seemed a bit less than firm, which is probably because the button is a bit smaller than the one on the IBM and had more room to move around. Nevertheless, the control was precise.

Secondly, there are four buttons set aside specifically for pre-programming of commands and macros. For system programmers, these buttons could save a lot of the pain of the same old mouse.

Thirdly, there is virtually no palm rest on this machine. For users who find the palm rest awkward, this may be the best suited notebook.

The benchmarking scores for the Armade came up incomplete, with no report for the database section of the tests. A non-report in the benchmarking scores can occur for any of a number of reasons, including operating system incompatibility with the benchmarking software. In different build of Windows could cause this, or the system configuration may not be optimal for the series of scripts our benchmarking software runs through. Just eyeballing the speed of the Cenqeq at this website (before the scripts produced an error), it appeared to be on par with the other 200MHz machines. The same error in the database scripts caused the machine to bring up an incomplete overall SymantecBench score.

Apart from that, the machine showed a good performance, although the CD-ROM, the floppy drives cannot be used at the same time in this configuration. The machine is a tough machine with a good business feel.

Software included is Java Connect, Cenqeq Internet utilities and diagnostic software and PointCast. The Armade comes with its own carrying case, and the warranty period is three years.

Hitachi Visionbook Pro 2500

Processor: Pentium 266MHz MMX
Suggested Retail Price: \$1,200

A recent entrant into the field of notebooks, Hitachi is a provider us with Visionbook Pro. With a solid 13.9 inch TFT display it's about average, and although it doesn't score at the top of the heap in the benchmark tests, this model comes with a number of nice features that are worth taking about.

First among these is the bay setup along the front of the machine, which has a spot for the floppy, the 20X CD-ROM and the hard disk. This setup makes the hard drive as easy to change as the CD-ROM drive. The downside to the bay setup is that there is no space in the machine for a battery, unless you sacrifice either the floppy or the CD-ROM.

In communications, however, the machine scores big. Like many of the other machines, it ships with an internal U.S. Robotics 56Kbps modem with telephone connector jack. The 2500 goes one better though, and also includes a LAN port for easy networking (without having to use a PC card slot).

The machine comes bundled with AutoBook, Multitasking MPFS, ConfigSet, and Modem Pro. Backs software. It's protected by a three-year warranty.



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Caracore 3000M

Processor: Pentium III 266MHz
Suggested Retail Price: \$5,499

Located in Repent, Ont., Caracore has built a solid name for itself in the notebook market with a focus on desktop replacement units. The 3000M certainly fits into this category, offering powerful components, a fast processor, and a larger case (and consequently, greater weight). Because of this, the product isn't the best candidate for a user who does a lot of traveling. Rather, the space is the ideal machine for someone who wants something more substantial on the desktop, but would like to retain the ability to fold up that desktop machine in 15 seconds and take it on the road.

The first thing that is impressive about the machine is, obviously, its sheer size. Although some of the other notebooks this month had screen sizes that seemed more than adequate, the screen size on the 3000M is larger than even the typical desktop machine, at 15.1 inches. The big screen was certainly be useful, but at the size the individual pixels became more noticeable, creating a slightly distracting "striping" effect.

The extra width, when added to the other half of the machine, allowed Caracore to fit the 24X CD-ROM, floppy and battery into the case simultaneously. In addition, where the other machines had a "hinged" only by pressing a button and using the regular DIRECT keys, the Caracore machine was actually able to fit a standard keypad in beside the standard-sized notebook keyboard.

Though the machine has the two standard PCMCIA slots, the machine comes pre-equipped with a U.S. Robotics 56Kbps modem card installed in one of them. As for the other components, they appear to be designed for easy removal and replacement. The floppy, CD-ROM, and even the hard drive slide into place on grooves. Although this makes removal and upgrading that much easier, the hard disk seems a bit unprotected, sitting on the carrier and resting on a rubber pad. Although most notebooks' hard drives aren't being much better protected, there's certainly a psychological effect involved. Since the machine is primarily designed to sit on the desktop, though, chances of damage would be minimal (whether such concerns are valid or not).

In short, the Caracore 3000M is a substantial and speedy machine that is perfect for desktop replacement and the occasional use as a portable. It comes with a one-year warranty and its own carrying case.

**Hypernote**

Processor: Pentium III MMX
Suggested Retail Price: \$3,999

The Hypernote notebook, provided to us by Compaq, leaves very little to be desired. With a 266MHz Pentium MMX, it checks in as one of the fastest of the machines tested this month. Further, the case manages to fit the 24X CD-ROM, floppy drive, and battery all at the same time, meaning less downtime while switching between components.

The keyboard layout is pretty familiar for users of a standard full-size Windows-enhanced keyboard, although the relative closeness of the keys may be a bit uncomfortable at first. At 14.9 inches, and rated for 1024 by 768, the screen is large and spacious.

The chassis for this notebook, however, is the price. At only \$3,999, the Hypernote is the least expensive of the models tested, but its performance was pretty much on par with the other highest-performing machines in this batch of contenders. A three-year warranty on the machine helps, too.

The only thing that could really merit a complaint about the machine's configuration is that a modem isn't standard. There is a spot in the machine for a modem or one could be added as a PCMCIA card, after the fact. Apart from that, the Hypernote appears to be the high-performance machine for those who don't want to spend an excessive amount of money.

**NEC Versa 6300**

Processor: Pentium 300MHz MMX
Suggested Retail Price: \$5,599

For NIC's performance puch, we looked at the Versa 6300, which comes in a charcoal color (instead of the usual burnt black). At 300MHz, the machine performed quite well in the benchmarking tests and was, in every way, a competent machine.

As with many other notebooks, the biggest downside to this machine is the bay configuration. The Versa 6300 did not take the floppy drive or the 24X CD-ROM that came with the machine, but only one at a time. Optionally, the bay can take an 15-120 drive, an extra battery, or a second hard drive (all purchased separately). As a bonus, though, the configuration we looked also ships with a 3.5T Zip drive, which can also go into that slot. Although there are a lot of options, the downtime while switching components could become frustrating.

The machine comes with Adobe Acrobat, Audio Rack, LiveBook, LookLink, Mobile View Size Mathematics MPDS, Mini Path FX, and CAD Light3D. The suggested retail for the Versa 6300 is \$5,599 and includes the Zip drive. The warranty for the machine is three years.



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IBM ThinkPad T70

Processor: Pentium® D30MHz MMX
Suggested Retail Price: \$6,500

Taking a look at IBM's ThinkPad T70 is all it takes to figure out how IBM got its good name. This is one solid machine, both in terms of construction, and in performance. Certainly, at 300MHz, the speed is a little bit less than some of the other machines tested this month, but the ThinkPad makes up for it in other ways.

The first major advantage the notebook has is the construction. Notebooks sometimes take a while to get used to because of the palm rest, how the keys are angled, and the feel of the machine under the hands. This one was a joy to use from the word "go," with a beautiful keyboard, good hand angle, and a comfortable surface finish all over the machine. The casing feels like it has metal backing everywhere, from the lid to the display to the frame around the components. This box feels like you could drop on it as well as it without any damage (not recommended).

For some users, the second major advantage would be the trackpoint control, rather than the now-obscure touchpad — but this is subjective. There is a third button under the two standard buttons, which can be used to control window scrolling.

The last advantage this machine has over the others is the SlimBay II slot. At first glance, it seems that the user has to choose between the CD-ROM and the floppy drive, since there is only one slot. However, the ThinkPad T70's drives are not only removable, they're also hot-swappable. Instead of shutting down the machine to switch components, the user simply clicks the eject button, waits for the signal, and pulls the lever to detach the drive. Installing the other drive is as simple as sliding it into the bay and pressing the lever back into place.

The basic configuration of the ThinkPad T70 ships without the CD-ROM, and retails for \$6,500, but had the CD-ROM added for the purposes of the test. For users who would prefer a hot-swappable DVD-ROM and instead of the CD-ROM, it is available for an additional \$250 for a total suggested retail of \$7,250.

The machine comes with a lot of software goodies, including Adaptive Digital Video Processor, FastCast, ThinkAid, Voice Phone, CoolSafe, IBM Antivirus and CardWorks. The machine is backed by IBM's three-year warranty.

Panasonic CF-35

Processor: Pentium® 300MHz MMX
Suggested Retail Price: \$5,500

Let's get the negatives out of the way first. At 300MHz, the CF-35 is one of the slower machines in our test. And with a 12.1-inch screen, with a maximum resolution of 800 (or 16 bit color), the display area seems tiny, after working with some of the other machines.

That said, however, appears to be the whole point of the notebook. At the opposite end of the scale from the design requirements, the CF-35 is the most portable of all of the month's machines, coming in at a slim 1.5 inches in height and at just under ten pounds in weight. Although the heaviest models hit about 18 pounds, they don't seem like they'd be all that heavy; a short walk with them slung over the shoulder will change that opinion. This weight, on the other hand, is just the thing for someone who's traveling a lot with a computer or for the someone cycling to work, five pounds (and a couple of inches length) and weight really can make a lot.

Backside of the coin, the user doesn't get the floppy or the 128 CD-ROM, but not both at the same time. On the other hand, the power gauge for a smaller machine like this is less, and the battery life is better than average.

For sheer performance, this machine isn't necessarily the best, but where portability is important, the CF-35 is a clear winner.

The warranty for the CF-35 is three years.

**Sonyva S500T**

Processor: Pentium® 333MHz MMX
Suggested Retail Price: \$2,500

The S500T doesn't have a lot of fancy tricks and ornamentation to it. Instead, it comes (in an understated and unassuming black case) packed with solid components.

With this configuration, the user must choose between the 128 CD-ROM and the floppy drive. With a 15.3-inch display and a 3.2GB hard drive, the components are basic and usable. What's more expensive is the 40MB of total RAM on the notebook, which brings up the performance accordingly.

A positive: The touchpad can be set up so that a touch of the finger along one side will activate scrolling in the active window. It's handy for working in a long document — anything that eliminates excessive mouse movement feels and looks much the better. Other than the touchpad or the trackpoint is a welcome addition.

The Sonyva S500T comes with a carrying case and a one-year warranty.



Sharp PC-M200

Processor: 300MHz Pentium MMX
Suggested Retail Price: \$1,499



Another internet newcomer to the world of notebooks, Sharp's PC-M200 has two notable differences right out of the box: it smells like a cave car. A few spots of silver on the chassis—yes, that's only surfaces that flaking.

Performance-wise, it's at the slowest end of the scale, as it ships with only a 300MHz Pentium MMX chip inside. However, the machine comes with enough room to leave the battery, 200-CD and floppy onboard all at the same time. In a nice little twist on the usual, the CD-ROM is fixed in the case, and the floppy can be traded for an extra battery or an optional Zip drive.

In addition to the usual ports, the Sharp comes with both a 56Kbps internal modem, and an RCA video-out jack for hooking up to a television. Software preinstalled includes Pentia's *Traveler*, *Official Airlines Guide* (helpful for the traveler) and *TV-Präsentation*.

One everyone thing about the end is the TFT display: while the quality of the display is good, the panel behind it seems a bit flimsy. Touching the back of the display panel even lightly produces ripples while the screen is on. Since the back of this panel constitutes the top of the notebook when it is closed, this may be a potential concern for users concerned with durability. Sharp's warranty for the unit is three years.

Viewhead Slimnote SLX02

Processor: Pentium 333MHz
Suggested Retail Price: \$1,299

For years, Viewhead has been making notebooks for other manufacturers, who would put their own label on the case and take the glory. Now, Viewhead is manufacturing notebook computers under its own name (also across country at Pampalor Express), and while the case may not be familiar, their experience shows through.

Arrival with the new 333MHz Pentium III for notebooks, a 56Kbps modem and a 4GB hard drive, the Viewhead already has a step up on the competition. When you throw in a 20-GB drive (DDR, CD-ROM sequential) and a DVD-to-go TV-out card, you've got the makings of a killer cutting-edge machine. Even better, the 6GB, floppy and battery all fit in at the same time, eliminating downtime.

Performance on the machine was solid, coming in at the top of the heap for the smaller machines. It was edged out for overall performance by one of the larger desktop replacement notebooks.

For software, the CDWin32 package is included, with options for audio, photo and video (CDs Also included is *Manga DVD* and *ThinkX*). For the quoted price of \$1,299, the operating system is Windows 95, but an NT system is also available for \$5,149.

The Slimnote comes with a carrying case, and has a one-year warranty.



Editors' Choice

**Value****Hyperdata**

Though it made strides both for size and glass in the performance contest, Hyperdata's notebook comes in at a \$3,699 — the lowest price among the month's contestants. This machine offers great performance for less.

**Performance****Angel 6800 MegaNote**

For sheer performance, this machine walked away with the prize, largely owing to the combination of fast processor and sufficient RAM to minimize swapping. For a really zippy desktop replacement, this is the best of the bunch.

**Overall****IBM ThinkPad 770**

IBM shows why the company is so respected in the notebook field, with a machine that's rugged, reasonably fast, able to run-snap-dance, and check full of software goodies. Add the fact that it's easy to use, and you end up with a notebook that's hard to put down. ☺

Ben Chivers is CDM's Test Lab Editor. He can be reached at ben@cdm.ca.



LAB TEST

[illegible]

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¹⁰⁰ *Wired* wrongly its scores are not a guarantee of history, like the ratio is observed here for the page on 41 enough recently.

Bigger CE

is a truly usable machine

By Grace Casperson

To date, one distinct factor has been both the blessing and the curse of Windows CE-based systems — their very small size. There's no arguing that computers weighing less than one pound and fitting into a purse or the inside pocket of a suit jacket are extremely portable. Unfortunately, they've also historically been awkward and uncomfortable when any volume of typing was required, and the first-generation CE systems were known for their dimly eye-straining screens.

Over the last few months, systems based on Windows CE 2.0 have been hitting the streets, generally sporting better screens, more memory and interesting features like voice recording. However, when it comes to size, the Packard Bell NEC MobilePro 750C is markedly different than its competitors. While players such as Sharp, Compaq and HP have stuck with the smaller form factor, NEC's new offering is big! At about 10 by five by one inches, it's not a pocket device by any stretch of the imagination. In fact, calling this a handheld computer is a rather inaccurate appellation.

The Keyboard

At that size, the keyboard is just slightly smaller than full-sized, and quite touch-typable. The color display is easy on the eyes, particularly compared to the previous monochrome version of this product.

True, the MobilePro 750C is prepped to compete directly on several fronts with notebook computers. For occasionally mobile users, the product, with 16MB RAM, provides excellent functionality in the form of pocket versions of Word, Excel, Internet Explorer, PowerPoint, as well as Outlook — including e-mail, contacts and scheduling features. Information can be transferred by desktop synchronization or e-mail, or via the PC Card or Flash Card slots. There's an infrared port, and the unit also includes VGA and serial ports for connection to printers and external displays.

Voice Recorder

One of the system's interesting features is the built-in voice recorder that lets the user hold down a button and record a spoken message. The resulting sound quality is nothing to speak of, but certainly audible. However, picking up a small notebook for dictation isn't particularly exciting, considering the ease of the mini-dictaphones so many executives use today. On first glance, this seems more of a cool incremental feature than a compelling purchase reason. But no doubt some owners of this machine will find this a useful way to very quickly capture some pertinent information, such as reminders, or telephone numbers.

Handwriting

Speaking of alternative input, the product also ships with a demo version of CalliGrapher for NEC. A full version from the software developer



Product: MobilePro 750C
Manufacturer: Packard Bell/NEC
Category: Windows CE handheld
Portable features: good-sized keyboard, color display, 32 Kbps infrared modem
Rating: A-

can be unlocked for about US\$1995. Basically, the user can print with the pen on the screen, and words will be translated to text. Recognition isn't bad, but far from perfect. However, with continued efforts, the user learns to print more easily, and the product responds with better recognition. Potential applications could include jotting down notes, say when holding a cell phone with one hand. But for more substantial input needs, the user may get frustrated at the unacceptably recognition levels. Another option of the product is to turn off the handwriting recognition and just use handwritten notes.

Battery

NEC claims to get about eight hours off the lithium ion rechargeable battery. Certainly the use of backlighting and the modem are battery-hungry activities. However, the system held up on a five-hour plane trip, including backlight use, and supported about an hour of on-line battery-only Web usage, without incident.

At a suggested retail price of \$1,499 — certainly the potential buyer is approaching the notebook price range. However, at that price, not much will compete in size or weight with the sub-two-pound MobilePro 750C. And still less can compare with the battery life!

Plus, don't forget the "assist-or" feature of this system. That means if you were lost looking at your schedule, all you have to do is open the class-shell design to see your schedule again, as the system immediately resumes that screen. This can be very handy for quick-reference!

The Market

By breaking with the pack on the size of CE systems, NEC is showing leadership in addressing usability, and deserves to be applauded. Keep an eye on this product, as we predict some of the current handheld market will be willing to trade form to get function. Moreover, the occasional business traveler considering a notebook might easily be swayed by the price and capabilities of this system. **A-**

Grace Casperson is the Editor of Canadian Computer Wholesaler. She can be reached at grace@netcom.ca

Sony unveils gaming console based on Windows CE

Sony Entertainment Inc. has announced its next-generation game console, in a bold strategy intended to steal market share away from Sony Corp. and Nintendo Co. Ltd. To build the machine, Sony has turned to Microsoft Corp., NEC Corp., Hitachi Ltd. and Yamaha Corp. for major components.

At the heart of the machine is Hitachi's SH-4 RISC (reduced instruction set computer) microprocessor with a 130-bit graphics engine. A Yamaha 32-bit RISC sound processor will provide 64-channel sound.

Providing high-performance 3D graphics will be the Power VR second-generation chip from NEC and VideoLogic. The chip boasts the ability to draw three million polygons per second and has a pixel fill rate of 200 megapixels per second.

Other specifications include 19MB of main memory, a 32 Mbyte modem for network games, a customized Microsoft Windows CE operating system, a 12X CD-ROM drive and the capability to display 16.7 million colors.

Bank of China plans Hong Kong's first SET gateway

On-line commerce is taking root in Hong Kong, but getting this year's Hong Kong offshore is the first secure payment gateway for credit card transactions over the Internet. BOC Credit Card and IBM have teamed up to provide a reliable and secure environment for Hong Kong merchants to do business on-line.

The payment gateway is based on the Secure Electronic Transaction platform.

"The introduction of the SET payment gateway is a response to this demand where a legal payment gateway needs to be more flexible, and is tailor-made for the needs of the local market," said Jackson So, managing director of BOC Credit Card (International) Ltd. IBM is providing the complete "solution" for BOC, including hardware, software and services using IBM's CommercePoint. Acquired payment gateway system applied to BOC's IBM PC4860 system.

So far, BOC has teamed up with four companies to provide a complete. JCB Computer, FujitNet, Merrill and Elin. The companies use IBM's e-commerce software package.

"Clients are interested but they don't yet understand the technology," said Keith Li, account executive, Internet Solutions with JCB Computer. "We are trying to push the concept, to educate the market-place that on-line purchasing is a secure method."

Using the SET gateway will be free for any BOC affiliates, of which there are 100,000. Users will need to install on a wallet on their PC, which they can do by CD-ROM or by downloading the software from the BOC Web site. An e-wallet gives the user the cardholder that makes the program secure. "Our goal is to provide advanced technology for our cardholders," said Kenneth K. C. Luk, business planning officer for BOC. Initially, Luk doesn't expect there to be a huge number of customers using the gateway but at time, he says, it will catch on.

Under the SET-enabled transaction, the merchant and the cardholder can identify each other by means of certificates before any significant confidential information is passed on. Data is encrypted with a 1024-bit mechanism, which at the moment is the most highly secured encryption technology to protect electronic data. Only a designated receiver with the appropriate decryption key can open the data for processing.



Metasystems, ITRI to promote DVD in Taiwan

Metasystems Electronic Industrial Co. Ltd. and Taiwan's Industrial Technology Research Institute (ITRI) have agreed to work together to promote the DVD system in Taiwan. The cooperation will include work on format and product development and establishment of a format verification laboratory in Taiwan.

Both companies are members of the DVD Forum steering committee, the group of companies that charts the direction of DVD technology and develops new formats. Metasystems is a founding member while ITRI was admitted to the group recently. ITRI is a non-profit, research and development organization, founded in 1973 by the Ministry of Economic Affairs.

Based on the agreement, Metasystems will provide technical support to ITRI in establishing a verification laboratory. Once constructed, the lab will offer verification services to companies in Taiwan, which need to have the capability of their equipment tested before being allowed to sell a DVD compatible and was the DVD logo Verification centers will include DVD Video player, DVD Video disc, DVD-RAM drive and DVD-ROM media. (E)



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"Users appear to be quickly discovering that by merely spending a few hundred dollars to add a DVD drive — and perhaps a better sound card and speakers — to their PCs, they can enjoy a whole new breed of desktop entertainment."

Digital Versatile Discs (DVDs) typically hold more than six times the amount of data available on CD-ROMs. Demand is starting to increase dramatically — despite the fact that DVD standards are still in a state of flux.

Demand for DVD drives presents a huge upside opportunity for resellers, but to properly serve this market, it is important to understand the driving force. (The software.)

Just as the Apple II didn't really take off until the arrival of the pioneering VisiCalc spreadsheet, and many early IBM PC sales were driven by demand for Lotus 1-2-3, dBase and WordPerfect, DVD is just gaining momentum as software titles taking advantage of it start appearing.

Unlike any previous hardware platform, however, DVD drives read all existing CD-ROM titles, access disks created with CD-R drives, play CD music discs — as well as the growing number of specially designed DVD software titles (including a DVD version of Microsoft Encarta) and DVD movies.

The latter is particularly appealing as DVD movies provide far greater picture

quality, sound and control than any previous entertainment storage. And users appear to be quickly discovering that by merely spending a few hundred dollars to add a DVD drive — and perhaps a better sound card and speakers — to their PCs, they can enjoy a whole new breed of desktop entertainment.

Just how big is the market for DVD already? Well, consider the news from Motorola-Meyer Inc. in May that the DVD release of the latest James Bond movie "Tomorrow Never Dies" racked up a record-breaking pre-sales order of 170,000 units before its release on May 12.

While it might be tempting to think that most of those disks are going out to people with DVD home-entertainment players, a recent industry survey suggests otherwise. A recent report in EE Times cites a survey by U.K.-based Strategy Analytics. It suggests sales of DVD drives in personal computers are "overlaping" those of stand-alone DVD players,

but it hasn't reached

And a prediction that with the arrival of new, lower-cost, Pentium III-based consumer PCs, the DVD drive will simply replace the CD-ROM as the multimedia player of choice for many PC manufacturers. Recent announcements by Intel about its backing for DVD — and the inclusion of DVD support in the Microsoft Windows 95 operating system — would seem



here to stay.

yet maturity.

by Geoff Wrenchwright

"Group" (the consortium) is trying to set DVD audio specifications and said that it would support the group's proposed DVD audio specification as a next step in bringing consumer-quality audio to the PC platform.

Ideal boasted of being the first computer industry representative invited to join the predominantly consumer electronics forum that has been meeting with music industry representatives for the last two years.

The company said it supported the proposed WC-4 format as the "most cost-effective and PC-friendly."

"We are taking an active role in the multi-industry efforts to help develop new copy protection technologies that serve hardware, software and computer electronics companies," said Don Russell, director of platform marketing in Intel's desktop products group. "These efforts will also help pave the way for our OEMs to implement these new technologies quickly and cost-effectively."

The Audio Working Group is a consortium of the DVD Forum composed of more than 30 top consumer electronics and music industry representatives to create the specifications for the recording industry's next-generation audio format called DVD-A.

"Support of the WC-4 specification is consistent with Intel's position to drive audio to the next level of convergence, bringing high-quality digital audio to consumer electronics devices," explained Russ Blomquist, Intel's audio marketing manager. "The power of Intel's processors will allow us to take advantage of this emerging technology, making the PC a point of choice for DVD audio playback. We have gained our activities toward making this a cost-effective reality for our customers and ultimately ourselves."

One remaining wrinkle in all this is the

notebook computer market, where Toshiba has led the charge by shipping a DVD drive on its high-end Terra notebook (which will cost in excess of \$50,000). This makes it possible to watch movies on a notebook computer while travelling and creates a compelling reason for the well-heeled, often-travelled executive to move to a DVD-based notebook.

Despite all this support, the future of DVD is hard to predict — particularly when you look at standards that will allow customers to create their own DVD disks. Several competing technologies are already vying for acceptance in this area — including DVD-R and DVD-RAM.

In terms of DVD for mass storage or as a backup medium, options that can be bought today are limited in scope and availability. Much of the action on this front is taking place in Japan. According to Japan's *Asahi* *Kyofu* *Shimbun* newspaper, Matsushita Electric Industrial Co. and Hitachi Ltd. began selling DVD-RAM (DVD random-access memory) drives in April — even though six other major electronics firms, led by Sony Corp., Hewlett-Packard Co. and Philips Electronics NV, intend to commercialize a rival format: DVD-rewritable, in the fall.

Hewlett-Packard is reportedly ready to start selling DVD-rewritable drives provided by Sony as an OEM basis this fall. The newspaper suggests Matsushita Chemical Corp. in July plans to bring on-stream a Singapore factory capable of making 200,000 disks a month for supply to Hewlett-Packard. It also reports that Sony plans its own marketing campaign for drives based on the format later this year.

Simple "DVD-upgrade" kits like the ones sold by Creative Labs are likely to enjoy considerable success this year as consumers increasingly yearn to play DVD movies and use DVD-based versions of popular software. On the same way that CD-based software grew the demand for CD-ROM drives in the earlier part of this decade. In addition, consumers will increasingly expect new PCs to offer (at least as an option) DVD drives. And that expectation is likely to be as strong for systems assembled by the channel as it is for "ready-built" machines from the OEM makers. The channel would be wise to be ready for this demand. ☐

Geoff Wrenchwright is a Vancouver-based journalist.

...and weight to the PC. In Japan, that DVD audio not just be about adding another way to watch movies on their PCs. Instead, it also stands to become the "next generation" audio format after the audio CD (which is now giving way to Microsoft's *Windows Media*).

In February, Intel announced its membership in the DVD "WC-4 Audio Working

Safe & S

Computer security, or the lack thereof,

"The bottom line is that wealth in our economy today is in intellectual property."

— Kevin Ford

"Technically, the level of security that's available to us is remarkable — what's missing is the level of comfort with the technology that will allow more businesses to use it."

— Barry Lewis

ound:

can make or break a business.

by Alice Threlkeld

Chaos in the machine. Spooks in the hard drive. We're all worried about things that can go wrong with our computers — and those we sell and service for our customers.

It's the real problem, it seems, is not in the computers themselves, but with the people who use them.

There's no doubt that computer security is big business. The arrival of the Information Age means that increasing amounts of critical business information gets stored in computer systems. Without adequate security, that data is vulnerable to attack by any number of human enemies. Disgruntled employees, outside hackers, corporate spies, fraud artists — they'll all get there, and they may be after what you have.

Surprisingly, though, most organizations still have a long way to go on the road to Total Security. IBM security guru Kathy Kinnard points out that although 66 per cent of companies use a recent survey use firewalls, only 63 per cent have deployed anti-virus software, and just 74 per cent use authentication. Only 63 per cent of those surveyed use encryption, and fewer than 50 per cent have intrusion detection. That means that human intruders can — and probably will — find a way to the mission-critical data.

"Computer security is definitely becoming a big issue among business executives," says Barry Lewis, a partner in Toronto-based security consultant Cybernet Information Consulting, and co-author of "Computer Security for Dummies" (IDG Books). "The Internet, electronic commerce, and networking have all had a hand in bringing security issues to senior executives' attention." That visibility, says Lewis, is finally getting security issues onto the task lists, where they belong.

"Security is still a bottom-end and low-budget concern for most businesses," he says. "Senior executives may read about the latest and greatest in security tools — what I call management by magazine — they know e-commerce isn't going to happen overnight. They want to look at what the real security issues are, and how much they'll cost."

Ben Keyfetz, president of Toronto-based Security Solutions of Canada Inc., knows about the costs of security. His company, founded in 1991, supplies computer security solutions to an expansive list of clients, including schools, law firms and computer stores. Keyfetz says that his customers need to be absolutely confident that their hardware will stop where it's supposed to. To accomplish this end, Keyfetz sells and installs a variety of security devices — locking plates and cables for desktop systems, keylocks and cables for notebooks, even motion sensors. "Every year, companies and schools buy new computers," says Keyfetz, "so they call us to secure their new systems. Because the per-unit cost of installed hardware security works out to about \$30 per unit, it makes sense for them to have this kind of installation done. And the old units have increased value for resale because they come with a bonus — a built-in security device."

Security will Grow in Importance

(NII) — Major changes lie ahead in the security management market, ranging from increased spending and more company mergers to the appearance of the new entry of "database and middleware viruses," an analyst from the Horowitz Group warned.

"Security vendors will merge and partner to form more comprehensive solutions," predicted Steven Potts, vice-president of research strategy for the Horowitz Group.

Potts predicted that, later this year, new industry standards will emerge spanning eight trail forming, certification and authorization. Over the next few years, "extended auditing will become a primary requirement," according to the analyst.

Regional business will emerge as the single largest driver for the security management market, and spending will also be spurred by increasing numbers of security-related liability suits, the consultants at Cambridge wrote last.

"Communication security" will become a hot market, as well as an "enabler for mobile e-commerce," said Potts. "Sales cycles will shorten. Prices will fall through 1999, and rebound with market consolidation into 2000," he reminded. Sales of security management products will also soar after the year 2000.

Horwitz supplied right now, corporate IT (information technology) budgets tend to be divided roughly in thirds between "general, e-commerce, and Year 2000." But after the millennium comes to pass, security management will take the place presently held by the Year 2000 or IT spending.

Potts presented a matrix that divides the security market into five segments: network integrity, system integrity, user integrity, application integrity, and encryption.

Some of the more highly developed markets today are for products like firewalls, virus protection, application access control, intrusion detection, and communication security. Some up-and-coming include anti-virus, risk assessment, user authentication, authorization at the application level and e-mailing.

Physical security is only part of the solution, though, says Kogut.

What matters most in the minds of those using the devices "Most schools, for example, put their computers in storage for the summer," he says. "When they take them out into classrooms again in the fall, they often fail to reconnect the security lockups. The real security issues here are training and employee attitude."

"There are a number of effective security tools available right now," says Catherine Lewis. "SET" has been used by VISA and MasterCard for some years, and SSL is used by most software companies, selling on the Web. Technically, the level of security that's available to us is remarkable — what's missing is the level of comfort with the technology that will allow more businesses to use it."

And that, of course, is where the going gets tough — and the tough get going. First of all, security technologies offer a bewildering array of terms, standards, and acronyms. Encryption, authentication, and certification compete in the Internet's brain with firewalls, IKE (Internet Key Exchange) and PKI (Public Key Infrastructure). It's easy to get lost — and getting lost means being vulnerable to infiltration and data loss.

"People want to be told of easy solutions to their security issues," says Kevin Ford, of ComputerActive Inc., a Naperville, Ill.-based firm that specializes in offering specialized security-focused expertise to its clients. "Unfortunately, there aren't any. Everyone's using WANs and the Web these days, many companies are extending their internal networks to home workers."

"The bottom line is that wealth in our economy today is in intellectual property. Information is more important than ever before — that's where the battles are being made, and that's what's most exposed than ever before."

The solution, says Ford, is a holistic approach to means of security.

He likens a business implementing security issues to someone guarding access to a castle. The castle may have a moat around it, and a high wall enclosing the castle's rooms. The moat can be closed up entirely, if its owner wishes, so there are no exterior gates and no back doors — but then there's no place to shove the garbage at the end of the day. More important, the castle's owner then has no contact or commerce with the world outside. A gate — albeit with restricted access — becomes a necessity if the castle is to be viable. That gate is analogous to a computer system's firewall. Individuals coming into the castle are identified, given passes, and allowed access to the castle's many rooms. However, they are not allowed to roam through the castle, so they can go room by room to rob, plunder, and pilfer. Those living and working within the castle need to put locks on their individual doors to protect their possessions. The locks and their matching keys — in the computer world — equate to encryption tools.

Firewalls ensure that only authorized personnel are able to gain access to internal data. Encryption tools involve a sequence of scrambling, signing, and file integrity procedures that enable individuals and

organizations to send files and documents electronically to colleagues, strategic partners, and others. Virtual Private Networks (VPNs) involve secure network connections established over a public network — such as the Internet — that can link two private nodes. The end result is secure, fast, legally verifiable commerce done digitally.

One of the tools advanced by Ford and his colleagues at ComputerActive is Entrust, a set of technologies developed by Northern Telecom, among them EntrustExpress (for secure e-mail), the Entrust-Ready Netscape Solution (which enables security to SSL, MIME, and Java forms signing), and the Entrust 4.0 Public Key Infrastructure.

"Without the kind of technologies implemented by

Entrust," says Ford, "e-business is just impossible. But when the right kind of education is followed by implementation of those tools, you can't stop what's going to happen — we're approaching a single sign-on model, worldwide." ■

Alan Drexler is a Toronto-based journalist who specializes in high-technology reporting. He can be reached at news@proton.com.





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NT, Unix war rages in CAD/CAM

by Paul Weinberg

When it comes to Unix or Windows NT in the CAD/CAM market, "You have 'big-time' boys, both sides," says Mickey Smolash, sales manager for the Canadian and northeast U.S. market at the Montreal-based L & R Consulting Ltd.

The debate was put downright heated among WPA's specialists in computer-aided design and manufacturing information. It also creates some anxiety among consultants and system integrators whose enterprises revolve around them. "People on the outside have a hard time understanding how endorphorphically it," says Smolash.

He leans toward Unix, but he is realistic to acknowledge the growing popularity in the corporate market for Microsoft NT workstations and solutions. "It is ironic that Unix after so many years of false starts, has become a robust platform." But now, it's contending with NT competitors.

But rather than fight it, some traditional Unix CAD/CAM resellers like L&R have embraced the doctrine of Unix and NT co-existing in the same organization, much like the two superpowers agreeing to push up their differences after the Cold War. "We are not a holdover," says Smolash. Nevertheless, he is confident of Unix's staying power. "Unix won't go away. It has too much momentum with a large installed base of loyal users."



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October 14
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Toronto-based International Data Corp. (Canada) does indicate that the Unix workstation market is still three times the size of its NT counterpart. Alan Freedman, the agency's research manager for systems and workstations, suggests major users of CAD/CAM solutions in manufacturing are likely to abandon their heavy investment in Unix workstations.

Still handy for sophisticated, compute-heavy applications. But he nevertheless points to some erosion forced by the high-end OS. Canadian revenues for Unix workstations hovered at about \$300-million in 1991, compared to \$913-million in the previous year. Contrast that with NT, which jumped from \$57-million in 1990 to \$90-million in 1991.

CAD/CAM software vendors, traditionally Unix-oriented, have come out with products native to NT. Among the latest is the Franco-based Dassault Systemes, the developer of Catia, which is distributed worldwide by IBM through a network of resellers, including L&H.

Other players like Conceptual Technologies have gone further and jumped ship



"NT's main attraction for corporate users is it allows for the seamless integration between CAD/CAM solutions in the production process, and the data files contained in non-production applications in the organization — such as word processing, accounting and spreadsheets."

Ditek launches DynaCADD 98

Richmond Hill, Ont.-based Ditek Software Corp. has launched its DynaCADD 98 CAD/CAM drafting, design, modeling, and rendering software, along with its companion — DynaCADD 9800.

The product adds support for DWG R14 formats, 16-bit raster images, paper-space entities, and large-format digitizers, and the ability to open multiple documents simultaneously.

The product is priced at \$185. "DynaCADD 98 meets the bar that other CAD developers must aim for," said Dave Mountain, president of Ditek, in a statement.

DynaCADD 9800 targets engineers who currently do not need the 3D and rendering capabilities of DynaCADD 98, and is priced at \$125.

In other news, Ditek says its third-party software developers are joining its developer



program, and for embedded CAD technology in their applications. They are: The Corncor Group of Richmond, B.C., in the construction, design-and-engineering industry; with its project-estimation software, 3D Construction Company of Elmhurst, Ill., which specializes in 3D modeling of 3D photographs; ISA of Naperville, Ill., in high-resolution digital imagery for electronics; and CMC engineering, robotics, machine and process automation; PlanFX of Guelph, Ont. and Niagara Falls, N.Y., in the building measurements industry. eADD-ONE of Palm Coast, Fla., with its ACE symbol library for electronics; and Cyber Line of Westborough, Mass., known for its software designed for streamlining shop operations in the industrial fabric market will also be selling DynaCADD 98.

manufacturers and parts suppliers, have developed a preference for Intel-based PCs as those computers become more powerful, easier to use and more affordable.

But it has also meant cut in reach consulting in some situations. Conceptual Inc., for instance, reduced its workforce from nearly 40 to 12 employees. In its heyday, says the vice-president, "Unix was a lucrative business."

NT's main attraction for corporate users, says Malove, is it allows for seamless integration between CAD/CAM solutions in the production process, and the data files contained in non-production applications in the organization — such as word processing, accounting and spreadsheets. "With Unix, that can't be done," Malove says simply.

Like NT's weak points. — Like its clustering solutions, which are relatively minor compared to Unix — are scorned upon by Brian McLaughlin, an ardent Unix fan and president of Minneapolis, Minn.-based Helios Systems Inc. "NT is poor at maintaining for running a computer [for office applications] and running CAD."

However, Jack Conway, senior consultant in mechanical engineering solutions for Framingham, Mass.-based International Data Corp., cautions that these technical debates will be irrelevant as NT workstations and solutions continue upward. By then, "the performance of NT will handle most people's needs," he states. His prognosis is that "NT will overcome Unix over the long run." NT's popularity, he adds, is being driven by the large manufacturers, which prefer a single operating system for the entire enterprise and "don't like the cost of integrating the two [NT and Unix]."

CAD/CAM solutions have become ubiquitous across

The Richmond Hill, Ont.-based company was a Unix VAR until three years ago. But it has since become exclusively an NT shop after going through a transition period where it was offering both operating systems.

Why the dramatic move? Conceptual's vice-president of operations, Philip Malove, says that his largely auto-sector clients, including both

many industries including the auto, electronic and aerospace sectors, which have been the early adopters. Software vendors have tried to cover all bases in CAD/CAM, an all-encompassing term that includes mechanical design, manufacturing, stress analysis (also known as CAE or computer-aided engineering) and product data management. In addition, IBM's Austin-based MCAD manager 3D Planning



3D Planning

estimates that at least two-thirds of all industrial design involves 3D solid modeling, as it has become more affordable for even the smallest manufacturer.

IDC Canada reports that Parametric Technology Corp. leads the pack in CAD/CAM solutions with 30 per cent of the market, compared to 20 per cent for Autodesk and six per cent for Intergraph. Of the three, Parametric, the developer of Pro/Engineer, is a bigger player in mechanical design, while Autodesk and Intergraph have a larger presence in architecture and engineering, also important areas for CAD. Up to recently, Autodesk's approximately 3,000 VARs worldwide were apparently the most common CAD/CAM resellers.

The role of the highly specialized VARs, the main channel for reaching the end-user, is rapidly changing, says Fleming. He envisions three CAD/CAM reseller functions: doing more just time training, support and maintenance for their clientele. "VARs are becoming systems integrators and solution providers."

L & H, for instance, has followed this route by coming out with a data management software tool that works with Dassault's Catia.



DataCDO 98

IDC's Conway says product data management has become increasingly important as much of the industrial design and manufacturing is conducted collaboratively in many organizations in separate geographic locations across the continent and the world. Furthermore, he notes, this complements the business process engineering occurring in many organizations. Included with data management are workflow elements that help management administrators the flow of activity behind each design and engineering project.

Still to come is virtual product manufacturing, an area that auto manufacturer Chrysler has gone some distance to investigate, adds Fleming. In what has come to be

known as mass customization, the new car is designed in the PC to the customer's specifications out of a range of model choices.

But the issue of how this would logically work is still a major issue, says the IBM spokesperson. For most consumers, says Fleming, "it is still easier to deal with the man-dealer three feet away." ■

Paul Wenzling is a Toronto-based journalist who specializes in high-technology reporting. He can be reached at pwenzling@wenzling.com.

AutoTag has drawing info

PowerLSP Solutions recently released AutoTag v2.2, an ObjectARX application for AutoCAD Release 14. The software maintains up-to-the-minute info about a drawing and displays it in a drawing tag, including data on a drawing's status, the project's number, drawing name, sheet size, plot scale, and time and date.

The program supports multiple tag placement, scale factors, and rotation angles. And according to the company, AutoTag's Import and Export options simplify installation and maintain consistent settings company-wide. A Password feature lets system administrators manage settings remain uniform.

AutoTag costs US\$25 for a basic license, and US\$55 for each subsequent license, but volume discounts are available. A trial version is available for download at <http://www.powerlsp.com/tagpage/autotag.htm>. ■

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WORTHWHILE CPU ALTERNATIVES



by

Alan Zimmerman

Last month, we looked at Intel's new Celeron processor (originally code-named Covington), a dumbed-down version of the Pentium II aimed at the low-cost market.

We were less than impressed, since by leaving out the Pentium II's Level 2 cache, the 266MHz Celeron's performance suffers, in some cases being cut even slower than last generation's plain Pentium. And Celeron uses the Slot 1 design as a real Pentium II, leading manufacturers to drop support for the Pentium-in-Socket 7 design, which is effectively a

shot at Intel's competitors at the same time.

Intel's new offerings for high- and mid-range machines were more impressive. These fit in with the company's new strategy of having separate product lines for high, medium and low-end systems rather than simply selling older and older models for lower and lower prices.

All this beyond, look for yet another made-up name: Xeon. While it sounds like a cartoon American variant, Xeon is a processor aimed at the growing network server market. Like the Pentium II (and Celeron), it ships in a cartridge, but unlike the other two product lines, it doesn't fit into a Slot 1 standard motherboard. Instead, Xeon requires a new, overrated Slot 2 design. These new motherboards will all run at 100MHz, speeding up the whole system. As well, unlike the Pentium II, Xeon is optimized for multi-processor designs. Expect to see server models with up to eight processors, compared to a maximum of two for Pentium II designs.

In addition, Xeon processors, running at 400 and 466MHz, include a brother Level 2 cache than standard Pentium II's, as much as 2MB— and allows the processor to access the cache at full speed, rather than half-speed as with the Pentium II design. All these changes result in a much more powerful system, but come at least at price Xeon accordingly (over US\$2,000 each in bulk).

While the server market is growing, these high-end machines represent a small (though profitable) market segment. The bulk of the market is split between low-end and mid-range computers. Intel also upped the ante for the mid-range, with its ramped-up Pentium III. While the speed increase to 330 and 400MHz, may seem only a modest improvement over the previous 333MHz speed change, this was accompanied with a new motherboard chipset, the 440BX, allowing motherboards to run at 100MHz, up from 66MHz.

Speeding up the motherboard increases the speed at which the CPU can communicate with RAM, and could result in noticeable performance increases. There are, inevitably, a couple of things to note, however.

Despite the promise that the speedier system has combined with faster processor will speed up overall system performance, initial testing results are less impressive. When 330 and 400MHz CPUs on systems with 165MHz buses were tested against 333MHz CPUs on 66MHz systems, the newer faster systems offered only relatively modest improvements when running standard business productivity software. The faster systems shone compared to the older models when run on network servers, however, especially as the number of clients accessing the network increased.

The newer 100MHz buses require faster memory than the older systems. And certainly, these faster SDRAM strips are considerably more expensive than the more standard ones. Installing 66MHz SDRAM onto a faster machine will not only slow the system down, but it may produce random (and hard to diagnose) system errors and bugs.

At worst, it can prevent a system from booting. The moral — make sure your first system includes memory designed for it. If you want the fastest system, you're going to have to be prepared to pay for it.

Intel's competition, however, is left simply sitting back and letting Intel define the market-place. In the past, this competition tended to limit themselves to releasing lower priced clones of Intel's last generation. Now, however, they are starting to take the initiative on several fronts.

The Choices

The three alternatives, Advanced Micro Devices (AMD), Centaur (Integrated Design Technology) and Cyrix have united to, for the first time, propose a set of new processor commands. The 3D Now! command set aims to enhance graphic and multimedia performance, if programming was code that makes use of the new instructions. 3D-Now will be supported by Microsoft's upcoming DirectX 6.0, due later this summer, but will not be compatible with Intel's MMX.2

But with MMX-2 set due until next year, the non-Intel companies are hoping for a window of opportunity to become an established, and supported alternative standard.

The first released product featuring 3D-Now is AMD's 133 and 200MHz K5-2 processors. While continuing to use the Pentium-style Socket 7, these CPUs will be able to run in motherboards with 100MHz system buses, allowing systems to be designed offering high-end P-II performance at lower prices.

The original K6 processor was well-received — expect to see a wide range of K6-2 models — if the company can successfully overcome production problems that limited output throughout 1997.

PowerPC

While we're on the subject of competition, it may be worthwhile to step back from the PC-arcade wars entirely, and take a look at the PowerPC.

You've probably seen the TV ads where Apple suggests that the chips in its G3 Macs are "up to twice as fast" as typical Pentium II's running at the same speed.

Apple is basing its claim on a series of tests done by *Byte Magazine*, using the HyPerMetric benchmark tests. These tests do suggest first in integer operations the G3 PowerPC does surpass the Pentium II. Floating-point operations are also faster, though not by as wide a margin; the tests comparing real-world systems are less conclusive. *MacObserver Magazine*, for example, was supposed to report that on some Adobe Photoshop operations, the Pentium II machine out-performed its G3 Mac counterpart.

Despite this ambiguity, Apple's products are an increasingly viable alternative to Intel-powered ones, and as they increasingly support PC-organized hardware standards, such as EIDE drives, PCI bus cards, and new Universal Serial Bus, the market for Mac solution products is becoming more competitive, and potentially profitable. ☐



Alan Zimmerman is a computer journalist and teacher. Arriving in Vancouver, he can be reached at alzimmer@progers.wave.ca

Dealing

with a Landlord

As a tenant, at some point you are going to be negotiating with a landlord. By having a better understanding of the dynamics of the process, you are going to get a better deal.

In most situations the tenant does not negotiate directly with the landlord. Normally a landlord hires staff or a sales agent in the form of a realtor or property management company to advertise and negotiate the rental of the business premises. Landlords and sales agents tend to be sophisticated in terms of the negotiating process as well as effective sales techniques. Therefore, the small business owner is often at a disadvantage.

When you are negotiating a lease, there are various strategies and tactics to consider. As in any negotiation, it is important to understand the needs of the other side. The sales agent's motivations include earning a commission and satisfying the landlord as that ongoing business can be obtained. As the sales agent is acting for and on behalf of the landlord, it is therefore prudent not to disclose to the sales agent any information that could impair your negotiating position. Being overly enthusiastic about the location may reduce your negotiating stance. In other words, try to keep the sales agent guessing as to whether or not you are planning to select that location.

Understanding the Landlord's Needs

There are several needs the landlord could have that would provide motivation for a deal to be made along the lines that you are proposing.

- **The landlord wants occupancy to attract tenants.** The more tenants in the building, the easier it will be for the landlord to attract other tenants into the building. It implies stability and traffic flow, and these are important factors to any tenant as well as the landlord. If a location is newly opened or soon to be open, that should provide you with better negotiating leverage in terms of being one of the first tenants to sign up for the building.

- **The landlord needs cash flow to debt service the bank loan.**

A landlord has to account to the bank in terms of generating the cash flow to pay the mortgage. The more saturated space on the premises, the less cash flow and therefore the more pressure the landlord is under from the bank. The landlord may be motivated to rent the space and therefore may be more flexible in negotiating the lease. It may take the immediate cash flow pressure off the landlord, even though there is a risk that the tenant may not be around a year later.

- **Full occupancy enhances the selling price of the building.** If the landlord intends to sell the building, a prospective buyer would like it the more attractive and the selling price would be accordingly higher if the tenancy of the building is at full occupancy. In other words, there is a direct financial benefit to the landlord to be flexible in negotiations with the prospective tenant if it helps fill up the building.

- **Tenants make it easier for the landlord to access bank financing.** If the landlord wishes to borrow money to invest in other buildings or for

other business reasons, the bank will lend money to the landlord based on the amount of cash flow being generated by the tenants in the building. Therefore, this may provide incentive for flexibility on the landlord's part.

It is helpful when negotiating to understand the context in which the landlord is operating. In many situations you are doing the landlord a favor by becoming a tenant, not the other way around. This philosophical and negotiating viewpoint will help to balance an otherwise one-sided lease arrangement.

Important Steps In Negotiating a Lease

Thoroughly understand leasing terms and concepts. Speak to your accountant and lawyer for clarification of your questions or concerns.

- Determine your overall criteria regarding the ideal location, the amount of money you are prepared to spend, and other factors.

- Thoroughly research potential locations and short-list them to three locations, if at all possible. Any one of these locations should be acceptable to you. Prepare a list of your questions and concerns to be answered by the landlord or his representative.

- Obtain all documents required to access the three locations. This includes a copy of the lease, building plans if the building is being constructed, and other information that your lawyer or accountant may request of you.

- Decide on your negotiating position regarding terms after your consultation with your professional advisors.

- Decide whether you are going to do the negotiating or have your lawyer do the negotiating on your behalf? If it appears tactically advantageous for you to do the negotiating, then make sure your game plan is well thought out in advance. If you involve your lawyer, it is a common for the other side to involve a lawyer in the negotiating stage, especially in the case of negotiating legal terms in the agreement.

If the landlord does not accept the offer, or if a counter-offer is made to you and you are not in agreement with it, then try the next location on your priority list. This approach will eventually get you the location and lease terms that you want. Do not hesitate to use your accountant and lawyer to come with lease negotiations. This money will be well spent, and give you the peace of mind of knowing that your decision is based on expert advice that will limit your personal exposure and risk. □

Douglas Gray, LL.B., formerly a practicing lawyer, is a Vancouver-based consultant, speaker and author of 18 law-related business books, including The Complete Canadian Small Business Guide (McGraw-Hill Ryerson) and Start and Run a Profitable Business Using Your Computer (Self-Counsel Press).



By
Douglas Gray

"As in any negotiation, it is important to understand the needs of the other side."



Web Sales aren't Without Risk



As a recent e-commerce seminar in Toronto, a representative from Bell Canada displayed some startling statistics on the current state of e-commerce, and its projected growth over the next few years.

Bell rates the successes of companies like Dell, which Bell says is doing \$4 million worth of business every day on the Internet — a whopping 50 per cent of its total revenue. Indeed, Anderson Consulting says the number of people using the Web is doubling every 100 days. There are already more than 50 million Internet users in the U.S. — a massive market segment developed in only five years. Compare this with the 38 years it took radio to reach 50 million users from 1922 to 1960, or the 23 years between 1920 and 1943 it took the telephone to reach 50-million mark.

With half of Canadian households already equipped with a PC and modem, we're ahead of the U.S. in Internet usage, where 21 per cent of adults use the Internet.

The Billion-Dollar Balloon

Cisco, International Data Corp. (IDC), Forrester Research and the U.S. Dept. of Commerce all agree that projected Internet e-commerce growth is expected to balloon from its \$1.1 billion point in 1996 to about \$300 billion by 2002. In fact, Forrester Research says sales climbing as high as \$327 billion by 2002 as people gain comfort and expertise in exchanging money, goods, services and information in the new e-Economy.

However, this lucrative landscape is fraught with perils, too. Consider the case of InterNetworking & Computing, which was forced to halt mail-order sales after it lost over US\$250,000 from people ordering computer equipment with stolen credit cards. The

company says all of this happened between the first incident in 1997, and one month later when it implemented an Address Verification System. (or says it struggled for almost a year carrying this debt, and was forced to pay the full amount out of pocket.)

One Per Cent Margin

And if you think the retail or wholesale business is tough, wait until you see the razor-thin margins offered by some of the purveyors of Web goods. Itoe, for example, boasts the lowest-cost shoes on the Internet, with only a one per cent markup. These kind of "virtual wholesalers" make the Web a tough place to compete, whether you are a multinational corporation or home-based company.

Nevertheless, Bell Canada says it believes that as the e-Economy grows and the industrial economy declines, the e-Economy will become the dominant component of the gross national product. Certainly, there are areas where the improvements in business efficiency are compelling. Consider, for example, the \$150 cost of a full-service brokerage transaction (trade). Even the discount offering trades at rates as low as \$49 can't hold a candle to the \$10 price of an e-Trade transaction on-line.

Revelling in Bargain-Land

Bell says the initial hesitancy of consumers fearful of security issues is fading as "shopping newbies" hear about the positive experiences of others. Couple this with an increasingly cooperative regulatory environment, an expanding technology infrastructure in terms of bandwidth and processing power, and it adds up to a compelling business value, with on-line price-performance roughly following Moore's Law, as it doubles every 18 months.

E-commerce offers the potential for

Years to Technology Adoption (to 50 million U.S. users)

Telephone	25 years	1920-1945
Radio	38 years	1922-1960
TV	13 years	1951-1964
Cable	10 years	1976-1986
Web	5 years	1993-1998

revenue enhancement, cost reduction and expansion in terms of product, customer base and available channels. Just don't forget to take off the rose-colored glasses.

Attracting On-line Shoppers

Considering advertising on the Web? A little research can help your investment pay off. According to Storm International's Almo Poole, the old ad axiom adage was right: it's location, location and location. Various sites on the Web, plus magazines and newspaper articles, will list high-traffic or top-rated sites.

To find out how effective your Web site or on-line advertising is, tracking software is a must. Some organizations rely on their own programmes, and devise a proprietary system. However, off-the-shelf solutions are available to track "hits," including a tool called ISA from MediaHouse, a Windows NT utility called MasterWave, a Mac-based program called PunditWeb and a number of others, of both commercial and shareware variety. Most are available as "installers," and run right on your site. And, of course, some ISPs provide logs as part of their service. ☐

Gordon Bremner is Hibernian at The Computer Paper's Web site — Canada's largest database of computer information. A's at help@comp.paper.ca.

Making the Most of a Show

by Monte Kerr



You hear it more often than ever these days — some of the biggest companies in the industry are turning away from computer trade or consumer shows in favor of their own, highly focused events. But that doesn't mean shows are disappointing. If anything, show organizers are offering even more marketing value to help companies get a bigger bang for their buck.

The first and most important rule to consider in keeping quality high is what is happening at your booth. Make sure you have knowledgeable, friendly people on the show floor at all times. They are the ambassadors of your company. It takes more than just a pretty face to hold the interest of a serious buyer. Showcase some real solutions — give attendees a chance to see how your technology works, and make sure the people giving demos fully understand what they are talking about.

When traffic slows down, your staff shouldn't. If they have an opportunity to take regular breaks, there should be no need to sit or lounge around during booth duty. The key to any effective show booth is professionalism, above anything else. Givebacks and giveaways attract a lot of people, but they don't always result in qualified leads.

We knew that, but...

The fact is, most companies realize their booth should be professional and attractive. Yet they find they aren't getting the most out of shows. The reason? A lack of activities at the booth.

Almost all shows are coupled with a related conference program, and conference organizers always seek informed, qualified speakers to participate in panel discussions or lead seminars. You can be part of that, if you plan early enough. Conference programs book up quickly, so include speaking opportunities as part of your annual trade show planning. Find out what the conference is focused on, and figure out what you have to offer. Then write a letter to the conference organizers, outlining your background and qualifications, as well as a proposed speaking topic. If you are comfortable with your subject matter, and know how to deliver an effective presentation, speaking opportunities are a great way to make yourself and your company known in industry circles.

Another way to stretch your show dollar is to take advantage of any media relations opportunities. Not all media are mainstream, not all need to be. But if you have a big announcement to make — a new product or an important strategic partnership, for example — it's a good idea to let the media know about it, and a trade show can be an effective forum.

Begin by working with the show organizers to find out if they promote the show to the media — some do. Talk to your show contact to determine what resources you can leverage. If you have purchased space on the exhibit hall floor, you will likely have access to the list of media who pre-registered for the show. Use that as your starting point. If you feel as though your news is truly earth-shattering, you may want to consider having a press briefing during the show. But make sure you turn a critical eye on your announcement first. Journalists have many demands on their time and if you invite them to a press briefing that contains little relevant news, they either won't attend or they will show up but won't write anything — and they won't trust your "news announcements" in the future.

If you can't afford to host a customer reception or hospitality suite, be sure to attend any social events put on by show management. Most conferences open with a welcoming reception and many of your customers, potential customers and business partners will likely be there.

Making the most of a trade show can mean a lot of work, but if you do it right, you will find that you can leverage any number of marketing opportunities at a single show.

Remember: research, plan, and it always takes bigger than the booth. ☐

Monte Kerr is a senior consultant with High Road Communications, a public relations firm that works exclusively with companies in the high-tech sector. She can be reached at mkerr@highrd.com.

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Fuji MX-700 MegaPixel Camera: Smaller, Simpler, Cheaper

N-Jon announces Windows vehicle records system

N-Jon Software LLC says its vehicle management software is available for Windows-based PCs.

WVS Plus is a comprehensive management system software for tracking vehicle maintenance and expenses for both homes and businesses, says the company.

Each vehicle has its own set of calendar and operating cost logs.

WVS Plus will tell users when to service their vehicles and show what maintenance services need to be done, when they need to be done and which ones are overdue. Each vehicle's service schedule can be customized. The home edition is US\$29.95 and a business edition is US\$39.95.

Call (800) 768-8377 for more information.



In May 5, Fuji Photo Film Canada announced the MX-700 Digital Camera, which Fuji claims is "the world's first pocket-sized image-pixel" (over one million pixel images) and high resolution digital camera aimed at both the consumer and business markets, and priced under \$1000.

Key among the new product's features are a tiny size (116.5 in a slim packet), light weight (under 100 grams including battery), high resolution (1.2M, by 1.0M pixels), professional-level image clarity and photo control options.

Also unique is a "select or delete" which enables selecting the camera's operating mode very simple. The MX-700 has a 1/2-inch square pixel CCD, automatic TV/Film/ISO memory (variable lens), AF/ISO video output, RGB color filter, and a built-in two-inch color LCD flat panel which permits real time preview of the camera image as well as on-screen control of camera options and playback, and readability of stored pictures.

The MX-700 has built-in image correction software, and can download images via an included serial cable to PC. The existing product is Windows-only. A Mac version is contemplated for the future. The camera comes standard with an internal rechargeable lithium-ion battery, and an external power supply. Among the included software is a copy of Adobe Photoshop 3.0 image processing software. The quality of the TV frequency video output is excellent.



The MX-700 comes with a 2MB removable flash memory cartridge (up to 64MB cartridges are currently available, and 128MB and 256MB cards, available now in Japan, are expected to be available in Canada before too long). With 256K of memory, the MX-700 can only store five full-color (1.2M by 1.0M images in JPEG format, or about 25.6K by 10K pixel images. Fuji recommends that users consider buying additional flash memory units to increase simple storage of large numbers of pictures.

For a peripheral, consider the Fuji SmartMedia Happy Disk Adapter (HDA-A). This is a floppy disk-based device with a microchip for taking a memory card. Users simply insert the memory card into the floppy adapter, insert the floppy adapter into the floppy drive of a PC, and the images are downloaded to the computer without any need for a serial connection.

For more information, contact <http://www.fujifilm.com>



Sangate and Hewlett-Packard team up servers and storage for high-end performance

Sangate Technology says the combination of its 100MB/sec Ultra2 SCSI Channel 50/P drives and Hewlett-Packard's Retarder 128B and 128B servers can deliver transfer rates of up to 100MB/sec, and up to double the overall performance of other UltraSCSI-based server storage systems.

According to Eileen D. Breen, HP's Network Server Division, "The Channel 50/P family of drives provides benefits to users that no other UltraSCSI drives can currently offer: technological innovation not present into the Channel 50/P enables faster seek times, lower power requirements, and greater environmental flexibility than competing drives."

See <http://www.sangate.com> or <http://hewlett.hp.com>.

Speaker system is for audiophiles



Midland Inc. has announced the 4008Midland 4008, a stereo/subwoofer speaker system that claims to deliver the finest sound reproduction in its class. With a suggested price of US\$899, the 4008 includes a 5.5-inch subwoofer, two three-inch satellite speakers, and a control module.

The subwoofer delivers 15-watt RMS, with frequency range from 60Hz to 100Hz offering deep bass reproduction. The entire system delivers more than 30 watts of power with less than 0.1% per cent distortion, making it one of the most powerful, high fidelity speaker systems in its class.

The control module employs DSP circuitry for 3D sound, and allows adjustment of balance, bass, treble, volume, mute and input select.

See <http://www.midland.com>

IRISPen is portable OCR system

Image Recognition Integrated Systems Inc. (IRISI) has announced the latest version of the IRISPen handheld OCR scanner. It offers a Transfer software package, which enables English or other languages to be scanned into a computer and then automatically translated and displayed on the computer screen.

There are English to Japanese and bi-directional French, Spanish, Italian and German versions of the Transfer software available.

The Transfer software is aimed at desktop and business people needing to translate foreign languages, and the small, hand-operated format of the IRISPen allows it to be used very flexibly and intuitively to scan and translate printed forms, packaging materials, books and magazines. A barcode reading software module, and built-in speech software module are also available. Versions of the IRISPen and its various software programs are available for both Microsoft Windows and Mac operating systems.

See <http://www.irispen.com> 339

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Veeva's adds vice-president

Pharmaceutical Veeva Inc., a provider of business solutions to help companies manage and evolve their information technology assets, has appointed Robert E. Young, a veteran of information technology services management, to the position of vice-president of global services.

His responsibilities include leading Veeva's professional services organization worldwide. Young reports to Kevin M. Hickey, president and chief operating officer.

Prior to joining Veeva, Young was a project executive with IBM Global Services headquartered in Somers, N.Y. At IBM, Young led several large internal and external engagements for the company. Before IBM, he worked in the project office of Lockheed Martin Aerospace, where he managed the restructuring of relationships with more than 115 of the company's subcontractors world-wide to improve the efficiency, flexibility and reliability of the subcontractors' business processes.

Novell appoints Dennis R. Roney as senior vice president

Novell Inc. has appointed Dennis R. Roney to senior vice president and chief financial officer, reporting to Novell chairman and CEO Lisa Schmitz.

Roney is responsible for finance, corporate tactics and information systems worldwide. Roney has held CFO positions at General Magic, California Microsystems and most recently QAD Inc. He also spent 22 years at Hewlett-Packard in finance, international and real estate assignments. And he served as senior vice president and CFO at Bristol-Myers Squibb Pharmaceutical Group, which had annual revenue of \$227 billion.

"There is a tremendous opportunity to sign Novell's business with benchmarks for financial performance that define value in leading companies across our industry," said Roney, in a statement.

Dell has new Asia Pacific president

(S&P) — Dell Computer Corp. has named John A. Leggett as the new president for Asia-Pacific Group. In his new job, Leggett will be responsible for running Dell's operations in 18 countries in the Asia-Pacific region, including the company's manufacturing and customer service centers in Taiwan, Malaysia and Xiamen, China.

Leggett comes to the company from AT&T Solutions, where he was president and managing partner of the worldwide contracting practice. Prior to that, he was president and chief executive officer of AT&T's Hong Kong-based Asia-Pacific unit.

Dell's current president Philip E. Kelly will leave the company, following a transition period to pursue other personal opportunities in Asia.

IBM names new Asia Pacific head

(S&P) — IBM Asia Pacific, a unit of IBM Corp.,

has named John E. Joyce as general manager. Based in Tokyo, he will be responsible for overseeing IBM's business operations across the region.

Joyce succeeds Robert C. Thompson, who is returning to the U.S. The new general manager was previously vice president and corporate controller for IBM Corp.

In 1981, he was appointed managing director of finance, planning and accounting for IBM Asia Pacific. Before becoming IBM Japan's senior managing director and chief financial officer in 1990. In 1994, he became senior managing director and chief financial officer for IBM Asia Pacific, leaving in late 1995 to take up the same role with IBM North America. □



John Joyce

Calendar

Aug. 3-7
International Storage Systems Symposium
San Francisco
Contact: IBM
<http://www.tosug.ibm.com/bondus/indus/>

Aug. 14-15 — Toronto
Sept. 19 — Calgary
Sept. 22 — Vancouver
Oct. 5 — Halifax
Oct. 14 — Montreal
Networking '98
<http://www.networld.com>

Sept. 8-13
Support Services Conference & Expo
San Francisco
<http://www.consolife.com>

Oct. 5-8
CSMA Annual Trade Show and Convention Conference
Toronto
Call: (416) 339-6000
<http://www.csmatrade.com>
<http://www.csmatrade.com>

Nov. 6-10
The CIO Summit
Toronto
Call: (416) 293-8922

July 8 — Montreal
Understanding Virtual Private Network Services and Multi-Service Networks
Cisco Systems Canada and AT&T Canada
Register: 1-888-461-0200
<http://www.cisco.com/events>

July 9-10
Canada/Canada
Toronto
<http://www.candoc.com>

July 20-21 — Calgary
Aug. 10-11 — Montreal
Understanding Computer Networks
Contact: Global Knowledge Network
<http://www.globalknowledge.com>

July 28-30
Sales Force Automation Conference
Contact: 30
<http://www.do.com/brochures/sf98/>

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Deadline: Aug. 5
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Hardware Focus: DVD
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Lab: Monitors

SEPTEMBER

Ad Closed: Aug. 12
Deadline: Sept. 2
Features: Integration/Configurations
Hardware Focus: Microprocessors
Software Focus: Database
Lab: Multimedia Systems

OCTOBER

Ad Closed: Sept. 16
Deadline: Oct. 7
Features: Networking Trends
Hardware Focus: Sound Technologies
Software Focus: Internet
Lab: Laser Printers

NiftyNumbers

Professional IT Services: A strong but volatile industry

Report from Braman

by Margery Leach

Rank 1997	Rank 1996	Company Name	Province	Total Revenue, 1996 (Actual)	Total Revenue, 1997 (Estimated)	Total Employees
1	2	The CCG Group Inc.	Quebec	\$22,900,000	\$22,000,000	260
2	4	ISB Group Inc.	Quebec	\$20,111,000	\$20,475,000	140
3	3	PROLOG Information Systems Consultants Group Ltd.	Ontario	\$18,000,000	\$17,280,000	1,100
4	8	Consulting Systems Int.	Manitoba	\$17,900,000	\$17,910,000	50
5	5	Quantum Information Resources	Quebec	\$17,000,000	\$16,000,000	775
6	10	Storm Systems Consultants Inc.	British Columbia	\$16,150,000	\$16,275,000	50
7	7	Calder Technology Int.	Quebec	\$16,100,000	\$17,000,000	50
8	6	Southlink Corp.	Quebec	\$15,000,000	\$16,000,000	150
9	11	Novia Information Consultants Inc.	Quebec	\$14,200,000	\$14,300,000	150
10	12	Realtime Information Systems Inc.	British Columbia	\$14,000,000	\$14,000,000	100

Note: All figures are preliminary estimates for the 1997 fiscal year, based on company reports, and are available only for 1997.

The need for services like system integrations, outsourcing and IT consulting seems to know no bounds. Braman Group Inc. reports that after a period of significant contracting over the past few years, the Canadian IT professional services industry emerged as a solid force in 1997. Collectively, the top 50 companies generated \$1.7 billion in fiscal year 1997, up 21 per cent from the \$1.4 billion they generated in 1996. Together, they employ 16,500 people. The Braman/300 assessment of the top 50 Canadian professional IT services companies in 1997 based on revenues. In comparison, their ranking and revenues in 1997 to the previous year, as well as their employee count. It shows that, while the province of Quebec is home to the top two companies, Ontario boasts a larger proportion (30 per cent) of the top 10. These observations are not surprising, given the high number of large businesses located in these two provinces. In addition, the professional IT services firms located in these provinces, and many of their client organizations, tend to be more nationally than regionally focused, creating an large-scale opportunities.

Intense competition has led to a high degree of volatility in this sector, characterized by ongoing industry consolidation and partnering relationships. For example, this year's Number One professional IT services company — The CCI Group Ltd., has adopted an acquisition strategy that helped secure its leading position. It acquired CDSL Canada, and also announced the purchase of Bell Syntex, DCE Inc.'s computer consulting and outsourcing business.

Considering the degree to which the face of this industry has changed over the past three years, and with the run in which the winds of change continue to blow, we aren't willing to make any predictions as to who will end up on top, or even on the list, next year. ☐

Margery Leach is director of the Braman Group Inc. in Ottawa. <http://www.braman.ca> — an international marketing and management consulting firm with a stated commitment to "Driving competitive advantage to the IT industry." Phone: (613) 743-2388, or fax: (613) 743-4990.

Reader Poll

This issue:

Alan Bernier's Tech Talk column ("Workable CPU Alternatives," page 52) discusses alternative reasons to consider non-Intel-based microprocessors, such as those from AMD and Cyrix. However, Intel has done a fair job of raising brand awareness for the CPU over the past few years. CCM wonders whether your customers have any concerns about buying PCs based on non-Intel chips.

Our question to you:

Have inquiries into your customers to buying computers containing non-Intel CPUs? Which most closely reflects your view?

- ☐ Most of my customers want only Intel-based computers
- ☐ My customers want computers with AMD, Cyrix or RDT microprocessors
- ☐ My customers weigh the capabilities and price of each chip, and make a well-considered decision
- ☐ My customers are more interested in the price of the systems, and don't worry about the brand of processor

Last issue, we asked:

For your customers, which is the MOST important concern when it comes to buying a computer monitor?

You said:

- 2%** Easy on screen controls
- 7%** Energy-saving technology
- 31%** A big screen, 17 inches or more, diagonally
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